

NEVADA SAGE-GROUSE CONSERVATION PROJECT

W-64-R-9

Nevada Department of Wildlife

Governor's Sage-grouse Conservation Team
Bi-State Local Area Conservation Planning Group
Elko County Sage Grouse POD
Lincoln County Technical Review Team
North Central Local Area Conservation Planning Group
South Central Local Area Conservation Planning Group
Washoe-Lassen-Modoc Local Area Conservation Planning Group
White Pine County Local Area Conservation Planning Group



Photo by Kim Toulouse – Conservation Education Division

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Nevada's Sage-grouse Conservation Project is a collection of jobs ranging from survey and inventory to conservation planning, research and project coordination. This document reports on all elements of the project.

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EXECUTIVE SUMMARY

The Nevada Sage-grouse Conservation Project consists of four primary elements including Survey and Inventory, Conservation Planning and Implementation, Research, and Coordination and Administration. This progress report details work accomplished on all of the jobs within each element. Although Federal Aid is a major funding component of the overall project, significant efforts from federal agencies and conservation organizations are directed toward sage-grouse conservation. In addition, funds from the State of Nevada - General Fund, Question 1 bonds, and other Nevada Department of Wildlife (NDOW) funds (i.e. Habitat Conservation Fee) are utilized to augment sage-grouse conservation planning and projects. The distribution of W-64-R-9 grant expenditures for state fiscal year 2009 is depicted in Figure 1.

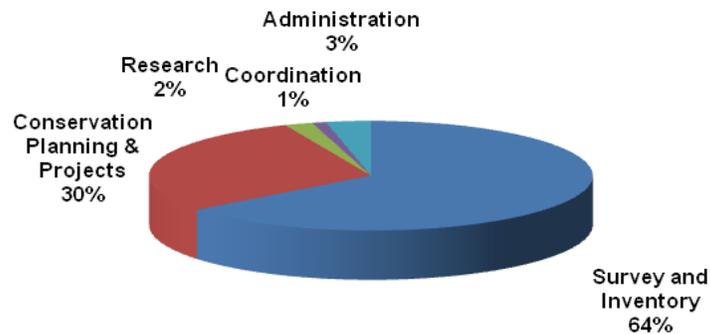


Figure 1. Distribution of W64-R-9 grant expenditures in fiscal year 2009.

A considerable amount of effort continues to be placed into monitoring sage-grouse during the breeding season. For the last three years, an average of 955 leks has been surveyed per year. During the spring of 2009, a total of 930 leks were visited at least once in Nevada by either ground or air. Of these leks, 505 (54%) were found to be active and a total of 7,954 sage-grouse were observed on these leks. This translated into an average of 15.8 birds per active lek. From an average lek attendance perspective, this represents a stable population when compared to 2007 average lek attendance rates of 15.9. However, from 2002-2008, the average lek attendance rate was 20.1 birds per active lek and the 2009 figures represent a 21% decline in lek attendance from that average. The 2008 and 2009 lek attendance rates are approximately 40% below the documented high of 26.6 birds per active lek recorded in 2005.

To measure demographic parameters such as production and nest success, sage-grouse wings are collected during the hunting season through wing barrel placement and through deposit at regional offices. A total of 1,662 wings were collected during the 2008 hunting season. The statewide production value was estimated at 1.69 chicks per hen which was a substantial improvement over the all time low estimate of 0.58 in 2007. Likewise, the 2008 nest success value of 42.5% was also much improved over the 2007 estimate of 31%. Considering these figures, sage-grouse populations should stabilize in 2009 with some areas showing population increases. This coupled with much needed spring and early summer rains in 2009 should lead to an increased number of males observed at leks in 2010.

The Nevada Department of Wildlife continues to further refine seasonal habitat and movement pattern mapping of certain sage-grouse populations. Oftentimes, these populations have experienced some sort of habitat perturbation or face threats from land use changes such

as energy development or resource extraction. In state fiscal year 2009, we conducted capture and monitoring efforts in several areas of White Pine County, Lander County and in western Elko County within the Tuscarora PMU. A total of 68 sage-grouse were captured in FY09 as part of these population delineation projects. Telemetry devices were attached to 53 birds consisting of 37 males and 16 females. In addition to birds captured in FY09, 29 birds caught and radio-marked in FY08 were also monitored in FY09. NDOW is utilizing the services of the Great Basin Bird Observatory (GBBO) for much of the follow-up work in White Pine County. Other sage-grouse captures and seasonal habitat delineation projects took place in Eureka County but work was done by the University of Nevada at Reno.

The Nevada Governor's Sage-grouse Conservation Team held five meetings during state fiscal year 2009. These meetings largely focused on developing standards for renewable and non-renewable energy development within sage-grouse habitat. A draft document entitled "Energy and Infrastructure Development Standards to Conserve Greater Sage-grouse Habitat in Nevada" has been developed and is anticipated to be completed by the end of 2009. Additional topics included sage-grouse population status and trend within Nevada and understanding Candidate Conservation Agreements and Candidate Conservation Agreements with Assurances. Staff also spent a considerable amount of time working with other state sage-grouse wildlife agency leads developing a white paper and position statement on the use of prescribed fire in xeric sagebrush ecosystems. This assignment was recommended as a need to the Western Association of Fish and Wildlife Agencies – Bird Conservation Committee and completed at their request. A very comprehensive literature review was conducted to develop conclusions or recommendations on the correct use of this tool within the sagebrush biome.

Aside from population survey, inventory and management, local area conservation planning and implementation remains an important and major portion of the W-64 Nevada Sage-grouse Conservation Grant. Some of the larger projects that were implemented in state fiscal 2009 include the following:

- Susie Creek Cooperative Weed Treatment in Elko County
 - NDOW provided \$50,000 for this project in FY08, but the majority of the project was implemented in FY09. Approximately 700 acres were treated to control and/or eliminate scotch thistle from this previously burned area that is considered sage-grouse brood rearing habitat.
- White Pine County Pinyon and Juniper Removal Projects
 - Planning and some implementation work were completed in the Duck Creek Basin, North Antelope Range and the Stonehouse area.
 - Initial funds for implementation were provided by the BLM, but future funds from this grant as well as Nevada Question 1 funds have been requested to help expand these projects.
- China Camp Sage-grouse Habitat Improvement
 - This project is located in the Mount Grant PMU and involves the removal of pinyon and juniper trees within breeding and brood rearing habitat.
 - The Nevada Department of Wildlife has provided the USFS – Bridgeport Ranger District with \$40,180 (\$20,090 in FY09 and \$20,090 in FY10) for implementation of the project. Some work has been completed; however, the majority of work is expected to be completed during the 2010 field season.
- South Fork of the Quinn Habitat Protection
 - This project involved the placement of a green strip to help protect adjacent habitats from further wildfire and to aid in the recovery of the area.
 - NDOW provided \$50,000 for this project through the Habitat Conservation Fee program.

- Roberts Creek Mountain Sage-grouse Habitat Enhancement
 - This project involved the use of hand crews to conduct thinning of pinyon and juniper trees in the Vinini and Willow Creek drainages.
 - NDOW provided \$39,709 to assist with implementation of this project in FY09.

Projects such as these, although relatively small in scale when compared to the overall landscape needs of sage-grouse, will benefit subpopulations of birds and will assist in the long term conservation of habitat. If favorable precipitation patterns are experienced post treatment over a period of several years, the results of these treatments should be positive. Projects in White Pine County and on Roberts Creek Mountain will receive fairly intensive population monitoring to help measure the response of the sage-grouse populations in these areas.

SURVEY AND INVENTORY

Lek Monitoring

State: Nevada Grant Title: Nevada Sage-grouse Conservation Project

Grant No.: W-64-R-9 Sub-Grant Title: Survey & Inventory
Sub-Grant No.: 1 Project Title: Population
Monitoring, Delineation and
Demographics

Project No.: 1 Job Title: Lek Monitoring

Period Covered: July 1, 2008 – June 30, 2009
Report by: Shawn Espinosa, Larry Gilbertson, Curt Baughman, Tom Donham,
Jeremy Lutz, Ken Gray, and Mike Podborny

SUMMARY

Lek counts continue to be an important duty within the Nevada Department of Wildlife's (NDOW) annual work program. These surveys are emphasized in the *First Edition of the Greater Sage-grouse Conservation Plan for Nevada and Eastern California* (Plan). Within the Nevada portion of the planning area, NDOW field biologists, Bureau of Land Management (BLM) and U.S. Forest Service (USFS) personnel, and volunteers collected data both from the ground using accepted protocols and air using a helicopter. Lek count data is also provided by biological consultants conducting resource evaluations for some of the many proposed transmission line and renewable energy projects. The following information is provided to report progress in achieving objective #1 identified in the Grant Agreement, which states: "Conduct lek counts to determine population health and estimate the size of sage-grouse populations within distinct Population Management Units (PMUs)". Cumulative lek count data is reported within this section by Local Area Conservation Planning group for consistency with the Plan.

During the 2009 spring breeding season, 7,954 sage-grouse were counted on 505 active leks in Nevada for an average of 15.8 birds per active lek. From an average lek attendance perspective, this represents a stable population when compared to the 2007 estimate of 15.9. However, from 2002-2008, the average lek attendance rate was 20.1 bird per active lek and the 2009 figures represent a 21% decline in lek attendance from that average. The 2008 and 2009 lek attendance rates are approximately 40% below the documented high of 26.6 birds per active lek recorded in 2005.

	# Males	Leks Surveyed	Active Leks	AVG/active lek
2002	5,198	648	335	15.5
2003	4,624	380	248	18.6
2004	6,813	487	309	22.1
2005	8,843	635	332	26.6
2006	9,580	881	448	21.4
2007	11,040	1,013	545	20.3
2008	7,671	923	483	15.9
2009	7,954	930	505	15.8

Table 1. Lek count summary from 2002 – 2009.

In state fiscal year 2009, **\$229,237.59** was expended on population monitoring efforts in Nevada. This work consists of lek counts, aerial lek surveys, collection and analyses of sage-grouse wings during various sage-grouse seasons, and population delineation which often involves radio-marking and follow-up activities. The level of effort to collect data on sage-grouse leks has increased incrementally and, in some cases, substantially since the inception of the conservation planning effort for sage-grouse in 2000. The original projected cost identified in the annual grant agreement was **\$231,200.00** resulting in a difference of **\$1,962.44**.

OBJECTIVES

The primary objective of this monitoring is to document and analyze data pertaining to sage-grouse breeding activity. These data contribute to an understanding of population dynamics including, but not limited to, numerical trends, population status, distribution patterns and habitat selection. Lek site attributes can be used in an attempt to predict suitability indices to direct future searches for undocumented grounds, thus furthering the scientific description of the species' range in Nevada. Biologists use the data to calculate minimum spring breeding population estimates for many of the 64 identified PMUs. These estimates and trend analyses will be used to evaluate population viability, effectiveness of management practices and prioritization of conservation planning and achievement efforts. However, these population estimates are not statistically valid and merely represent a "best guess" as to what a population size might be. Comparisons from year to year should be viewed with this in mind as survey efforts change from year to year and some assumptions could be incorrect. Because there is such a large number of PMUs, data in this report will be summarized by Local Area Conservation Planning group for reading ease.

FINDINGS

WASHOE-LASSEN-MODOC

The Washoe-Lassen-Modoc planning area consists of 5 PMUs of which two are shared with California (Buffalo/Skedaddle and Vya). In many cases, sage-grouse utilize habitats in both states, thus data collected from leks in California are provided to present a more accurate representation of the populations within each PMU.

During the spring of 2009, 105 leks were visited by biologists and volunteers within these 5 PMUs with 81 leks classified as active. A total of 2,064 males were observed yielding an average of 19.7 males/lek. This is a substantial improvement (38%) relative to 2008 where 1,554 males were counted on 80 active leks ($\mu=14.3$ males/lek). Within the Nevada portion of this planning unit, a total of 83 leks were visited with 62 being classified as active. A total of 1,585 males were observed on these leks for an average of 25.6 males/lek.

A minimum spring breeding population estimate of 13,303 was calculated for the entire planning unit using established methodologies. This estimate represents a 39% increase over the 2008 minimum spring breeding population estimate of 9,550 and is consistent with the estimated improvement (38%) when comparing average lek attendance as described above.

Each of the PMUs within this planning unit experienced population increases from 2008 except for the Pah Rah/Virginia PMU. The most notable increase was within the Buffalo/Skedaddle PMU where a 69% population increase was estimated. In contrast, the Pah Rah/Virginia PMU showed an estimated 22% population decline. This PMU continues to suffer from the effects of suburban development and dispersed recreation from off-road vehicles. Additionally, the Spanish Flat lek, which is the most significant lek within the Virginia PMU, was only visited once in early May (too late for a reliable count) with relatively few birds observed.

BI-STATE PLANNING AREA

The Bi-State planning area, like Washoe-Lassen-Modoc, is also a region where population management units (PMUs) are shared between Nevada and California. Five of the PMUs in this region are shared between the two states while one is entirely within California (South Mono PMU). The PMU boundaries were delineated to account for the movement of birds across state lines.

Overall, male sage-grouse attendance on known leks improved from 2008 to 2009 as 552 males were observed on 27 active leks for an average of 20.4 males per lek. This is a 32% increase over 2008 where an average of 15.5 males per lek was observed. The most at-risk population within the Nevada portion of the Bi-State planning area is the Pine Nut PMU. Only one dependable active lek is known in this PMU with relatively few numbers of birds in attendance (n=6 in 2008). Because of a recent fire (Adrian Valley, 2007), suburban development, OHV use and potential wind energy development, the long-term viability of this population is in doubt. Elsewhere in the Nevada portion of this planning unit, relatively low, but stable populations of sage-grouse exist within the Desert Creek and Mount Grant PMUs. Average male attendance (13.3 in 2009) was up almost 100% in the Mount Grant PMU while this value remained approximately the same for the Desert Creek PMU from 2008 to 2009 (see Table 2).

PMU	Total Known Leks	# of Leks Surveyed	# of Active Leks	# of Males Counted	Avg. # of Males/Active Lek
Desert Creek/Fales	25	9	6	80	13.3
NV Portion	(19)	(6)	(4)	(49)	(12.3)
CA Portion	(6)	(3)	(2)	(31)	(15.5)
Mt. Grant (NV)	12	5	3	40	13.3
Pine Nut (NV)	10	1	1	20	20
White Mountains	5	0	0	0	0
Bodie Hills (CA)	18	10	7	197	28.1
South Mono (CA)	22	13	10	215	21.5
TOTAL:	92	38	27	552	20.4

Table 2. 2009 lek count effort for the Bi-State local conservation planning area.

The 2009 minimum spring breeding population estimate for the entire Bi-State local conservation planning area was 3,485. This represents a 29.5% increase over the 2008 estimate of 2,690, but follows a 36% decline that was recorded from 2007 to 2008. Population increases were noted for the Mount Grant and Bodie Hills PMUs with the most significant increase being in the Bodie Hills (+127%). Populations in the Pine Nut and Desert Creek PMUs remained fairly stable while a 6% decrease was estimated in the South Mono PMU. Spring 2008 conditions were relatively poor for production and recruitment until late May when significant precipitation was received. This positively influenced plant growth and likely had some positive effects on production and recruitment for those hens electing to make multiple nesting attempts. Conditions in late spring of 2009 were much improved and should translate into better production and recruitment. 2009 lek counts should reflect this with increased numbers of males observed overall.

NORTH CENTRAL PLANNING AREA

The North Central planning area is composed of Churchill, Pershing and Humboldt Counties. There are 19 Population Management Units (PMUs) within this planning area, many of which encompass isolated, dry, single ridge mountain ranges with small populations of sage-grouse. Some PMUs can be considered disconnected with other major sage-grouse populations lying to the north, west and east. However, the planning area contains some very important PMUs in Nevada with significant populations of sage-grouse in the Lone Willow and Santa Rosa PMUs.

Much of Humboldt County was relatively dry during the early spring of 2009 providing good access to many lek sites by vehicle. As the spring progressed, heavy rains were experienced that hampered access. Seasonal technicians were hired to assist biologists with ground counts in 2009. Funds for seasonal technicians were provided in part by the Bureau of Land Management – Winnemucca District through a Challenge Cost Share Agreement. Additionally, this agreement also provided funding for contract aerial services to conduct aerial surveys. Table 3 shows the results of lek count work conducted during 2009.

PMU	Total Known Leks	# of Leks Surveyed	# of Active Leks Surveyed	# of Birds Counted	Avg. # of Birds/Active Lek
Santa Rosa	125	95	33	478	14.5
Lone Willow	93	87	29	323	11.1
Pine Forest	13	13	6	109	18.2
Black Rock	25	25	8	163	20.4
Jackson	7	0	0	0	0
TOTAL:	260	186	81	1088	13.4

Table 3. Results of Humboldt County lek counts conducted in 2009.

There are four main PMUs with substantial populations of sage-grouse within Humboldt County. These include the Santa Rosa, Lone Willow, Pine Forest and Black Rock PMUs. A total of 220 leks were visited in these four PMUs with 76 of these leks being classified as active and a total of 1,073 sage-grouse observed. Population increases were noted for each of these PMUs except for the Santa Rosa PMU. This decline may be attributed to mis-classification of active leks within this PMU, which is used in the population estimate calculation. Minimal population increases were noted for the Lone Willow (+4.7%) and Pine Forest PMUs (+1.6%); however, a fairly substantial population increase was noted for the Black Rock PMU. The average number of males per active lek increased by 24.4% within this PMU while the population estimate increased by 38%, largely due to additional active leks that were counted in 2009.

In Pershing County, a total of 38 leks were visited within the six PMUs located during the 2009 spring breeding season. Of those, 17 leks were observed to be active with 116 sage-grouse observed on them for an average of 6.8 birds per active lek. These figures are very similar to 2008 where 118 birds were counted on 17 active leks. Of particular concern are some of the smaller PMUs in Pershing County including the East Range, Eugene, Humboldt and Majuba PMUs. The Eugene PMU experienced a large wildfire in 2007 and lek surveys did not detect a single bird in 2009. Lek surveys in the Humboldt and Majuba PMUs detected only one and two birds respectively.

Two PMUs (Desatoya and Clan Alpine) were surveyed in Churchill County during the spring of 2009. Eleven leks were counted at least once with 7 of those leks determined to be active. A total of 177 males were observed for an average of 25 males per active lek. This

reflects a 25% increase when compared to 2008 lek counts which yielded an average of 20 males per active lek. The Desatoya PMU population continues to remain stable with 155 males observed on 6 active leks. The small population in the Clan Alpine PMU is also thought to be stable at a low level, but because of the small population size (only one known active lek); the population is susceptible to poor habitat conditions or potential stochastic events such as wildfire.

When considering the North Central Planning Area as a whole, a total of 235 leks were visited and 1,321 sage-grouse were counted on 105 active leks during the spring of 2009. These figures are similar to the previous year's effort and results (247 leks visited with 1,388 sage-grouse on 108 active leks). Lek counts were conducted in 11 of the 19 PMUs within the planning area in 2009. No lek location data exists for at least 4 of the 8 remaining PMUs within this planning area including the Limbo, Sahwave, Nightingale and Eden Valley PMUs.

SOUTH CENTRAL PLANNING AREA

The South Central planning area consists of Lander, Eureka, and Nye Counties. This planning area includes 10 Population Management Units (PMUs). A total of 1,208 male sage-grouse were observed on 58 active leks during the spring of 2008 (see Table 5 for complete data) for an average of 20.8 males per active lek. In comparison, the average number of males per active lek was estimated at 25.4 in 2007 translating into an 18.1% decline in lek attendance. Lek count data from 2008 generated a minimum spring breeding population estimate of 13,213 for these 10 PMUs. This figure represents a 21% decrease when compared to the 2007 estimate of 16,742 and follows a 7.5% decline from 2006 to 2007.

PMU	Total Known Leks	# of Leks Surveyed	# of Active Leks Surveyed	# of males Counted	Avg. # of males/Active Lek
Battle Mountain	7	7	2	9	4.5
Fish Creek	6	3	3	13	4.3
Shoshone	15	5	5	68	13.6
Cortez	28	5	5	66	13.2
Three Bar	51	18	16	222	13.9
Diamond	35	4	4	75	18.8
Toiyabe	68	32	15	231	15.4
Reese River	44	39	10	190	19.0
Monitor	69	20	13	363	27.9
Kawich	0	0	0	N/A	N/A
TOTAL:	317	133	73	1,237	16.9

Table 4. 2009 lek count effort within the South Central local conservation planning area.

Lander County PMUs include the Battle Mountain, Fish Creek, Shoshone and Toiyabe PMUs. The Toiyabe and Shoshone PMUs harbor the largest sage-grouse populations in Lander County. Trend lek counts in the Shoshone PMU (2 trend leks) in 2009 resulted in an average of 21 males/lek. This was a 56% improvement over 2008; however, no birds were observed on one of these trend leks in 2008. The 10-year high for this PMU was 34.5 males/lek recorded in 2006. Average male attendance for three trend leks in the Toiyabe PMU was 21.3 males/lek in 2009. This figure represents a 6.6% decline from last year and a 67% decline from the 10-year high of 64.3 males/lek recorded in 2006.

There are essentially four PMUs in Nye County: Reese River, Monitor, Kawich and the Quinn PMUs. The Reese River and Monitor PMUs harbor the largest sage-grouse populations

in the County with 12 and 24 known active leks respectively. There are no known leks in the Kawich PMU and the Quinn PMU was placed under the responsibility of the Lincoln County Technical Review Team (see page 12). There are 14 leks that have been identified as trend leks in the Reese River and Monitor PMUs. An attempt is made to conduct a count at each of the 14 trend leks once per week for 5 weeks in order to determine peak attendance of male and female sage-grouse. During the spring of 2009, 7 trend leks showed a decrease in male attendance from 2008, while 7 showed an increase. Overall, 2009 trend lek data indicate that male attendance was down 4% from 2008. Despite the minor drop in male attendance compared to the previous year, it is interesting to note that over the past 8 years, 8 of the 14 trend grounds have been showing an increasing trend in male attendance. From 2001 to 2007, most central Nevada trend grounds showed noticeable increases, but due to recent drought, much of the population growth has been nullified.

There are three PMUs that are, for the most part, within Eureka County (Cortez, Diamond and Three Bar) that contain 114 known leks with 42 classified as active. In 2009, 27 leks were visited of which 25 of them were active. A total of 363 males were observed on these leks resulting in an average of 14.5 males/active lek. Currently, there 18 comparable trend leks in Eureka County which were all counted between 4 and 10 times each in 2009. Peak lek counts resulted in a total of 279 males observed on these leks for an average of 15.5 males/lek. This figure represents a 17.5% decline from the 2008 average of 18.8. Many of the trend leks in these three PMUs are intensively monitored as part of a larger ongoing research project being conducted by the University of Nevada, Reno (Falcon to Gonder Transmission Line Study)

ELKO COUNTY

Elko County has the highest density of leks of any county in Nevada and continues to harbor some of the largest sage-grouse populations in the state. However, large wildfires that occurred from 1999-2007 reduced the amount of suitable habitat for the species substantially. There are a total of 10 PMUs within this planning area with three having between 65 and 86 active leks. Personnel from various agencies including Elko NDOW, USFS, and BLM field offices, as well as volunteers, assist with lek monitoring efforts each year. NDOW personnel normally focus on trend ground counts and ground-truthing of existing leks in the database while accompanying BLM personnel with directed efforts towards checking leks for activity associated with burned areas or in areas that have little historic data available.

During the spring of 2009, 297 leks were visited and 2,355 cocks were observed for an average of 7.9 birds/lek or 14.6 birds/lek not including the 136 leks with no birds observed. Nine new leks were located in 2009, all but one in the Northfork PMU. In comparison, 366 leks were visited in 2008 with 2,697 cocks observed for an average of 7.4 birds/lek or 15.2 birds/lek excluding the 189 leks with no birds observed. As a result of 2009 fieldwork and assessment, a total of 17 leks were removed from the database due to the lack of long-term data or because they were one time counts or no data in questionable habitat (two leks) or the lek was combined with an existing adjacent lek (15 leks). Burned leks will continue to be monitored to see if they persist or if abandoned leks become occupied sometime in the future. See table 5 for 2009 lek count efforts.

PMU	Total Known Leks	# of Leks Surveyed	# of Active Leks Surveyed	# of males Counted	Avg. # of males/Active Lek
Desert	46	2	2	159	79.5
East Valley	15	12	5	72	14.4
Gollaher	123	15	7	64	9.1
North Fork	127	79	50	712	14.2
O'Neil Basin	157	59	29	353	12.2
Ruby Valley	79	7	7	151	21.6
Snake	61	32	16	214	13.4
South Fork	65	47	17	274	16.1
Tuscarora	75	33	19	320	16.8
Islands	24	11	3	36	12.0
TOTAL:	772	297	155	2,355	15.2

Table 5. Lek count effort and results from the 2009 spring breeding season in Elko County.

NDOW personnel checked 14 trend leks between 3 and 8 times each during March, April and early May of 2009 in Elko County. A total of 557 males were counted resulting in an average of 40 males/lek. This is a 7.5% decline compared to the 2008 average of 43 males/lek. Most leks peaked in mid to late April; one peaked in mid-March and one in early May.

LINCOLN COUNTY TECHNICAL REVIEW TEAM

The Lincoln County LACP consists of three separate PMUs: Lincoln, Steptoe/Cave, and the Quinn. The Quinn PMU is mostly within Nye County, but planning and implementation activities rest with this local working group. Very little data currently exists regarding recent sage-grouse activity within the Quinn PMU. On the other hand, intensive efforts to survey leks and the use of telemetry marked sage-grouse in the Lincoln PMU has greatly contributed to a useful dataset and allowed the documentation of previously undiscovered lek locations.

During the 2009 spring breeding season, a total of 265 male sage-grouse were observed on 23 active leks within the Lincoln and Steptoe/Cave (south) PMUs resulting in an average of 11.5 males per lek. This is the same average as that obtained during the 2008 spring breeding season. Production in 2008 likely improved over 2007 and the expectation for 2009 production and recruitment is positive. Lek counts in 2010 should reveal a population increase if habitat and weather conditions remain within normal ranges.

PMU	Total Known Leks	# of Leks Surveyed	# of Active Leks Surveyed	# of Birds Counted	Avg. # of Birds/Active Lek
Lincoln	23	19	16	173	10.8
Steptoe/Cave	7	7	7	92	13.1
TOTAL:	30	26	23	265	11.5

Table 6. 2009 lek count effort and results within the Lincoln LACP.

Sage-grouse populations within the Lincoln and Steptoe/Cave (south) PMUs should remain fairly stable with some potential to increase if spring weather patterns are more conducive to production and habitat enhancement projects in the form of pinyon and juniper removal on the periphery of key habitat areas. A considerable risk faces the Lincoln PMU sage-

grouse population if a utility scale wind energy development is placed on Table Mountain. This area is heavily utilized by sage-grouse as nesting and brood rearing habitat and harbors the majority of summer habitat within the PMU. Additionally, movement corridors from valleys surrounding Table Mountain could be impaired if development occurs.

WHITE PINE COUNTY LACP

The White Pine planning area mainly resides within the confines of White Pine County, with some minor exceptions. The majority of three PMUs (Butte/Buck/White Pine, Schell/Antelope, and Snake Valley) are within White Pine County. Two other PMUs (Diamond and Steptoe/Cave) are partially within White Pine County.

White Pine County witnessed an unprecedented lek monitoring effort in 2009. Numerous personnel from 7 different agencies and organizations participated in lek surveys. Twenty-six comparable leks were monitored and 288 cocks were observed in 2009 for 11.1 cocks/lek compared to 345 cocks and 13.3 cocks/lek in 2008. This represented a 17% decrease in lek attendance. Overall in 2009, 137 leks were visited and 1,028 cocks were observed for an average of 7.5 birds/lek or 13.4 birds/lek not including the 60 leks with no birds observed. In comparison, 77 leks were visited in 2008 with 872 cocks observed for an average of 11.3 birds/lek or 15.0 birds/lek excluding the 18 leks with no birds observed. Twelve new leks were found in 2009 with all but one located in the Butte Valley/Buck Mountain/White Pine PMU. These new leks were attended by 212 males and will need to be validated next spring. The largest new lek exceeded 70 males. See table 7 for complete lek count efforts in White Pine County.

PMU	Total Known Leks	# of Leks Surveyed	# of Active Leks Surveyed	# of Birds Counted	Avg. # of Birds/Active Lek
Butte/Buck/WP	129	97	43	698	16.2
Schell/Antelope	36	20	18	185	10.3
Steptoe/Cave	21	10	8	109	13.6
Spring/Snake	22	10	8	36	4.5
TOTAL:	260	186	81	1088	13.4

Table 7. 2009 lek count effort in White Pine County.

Population Demography

Report by: Shawn Espinosa

OBJECTIVES

This section describes work conducted to achieve objective #2 stated in the Grant Agreement for Sub-grant I, Project #1 which states, "Determine age structure, sex ratios, and nest success values for various sage-grouse populations through collection and analysis of wings from hunter harvested sage-grouse..."

SUMMARY

Records of wing collection data date back to 1970; however, wings were likely collected and analyzed by Nevada's wildlife agency prior to this. Annual collections of wings and information pertaining to harvest continue to be an important function that provides valuable information on production, nest success and population performance. The information gained from the collection of wings, as well as upland game questionnaire data, help determine if hunting season strategies meet the guidelines suggested by the Western Association of Fish and Wildlife Agencies (Connelly et al. 2000) for sage-grouse.

Approximately 75 wing barrels were placed at strategic locations across the state prior to and during the sage-grouse hunting season to collect wings as well as drop-off at regional offices or to law enforcement officers. Requests are made through regulation brochures and the Nevada Hunt Book to deposit wings at these locations. Envelopes with questionnaire labels are available at wing barrels to determine the location of harvest and other information. Once wings have been collected, they are separated by Population Management Unit. These wings are analyzed at an annual Wing Bee where biologists gather from around the state to classify wings. The Braun (1970) wing key for age and sex classes of sage-grouse is used to classify wings.

A total of 1,662 wings were collected during the 2008 hunting season, which is a slight increase over the 2007 collection of 1,496 wings. Both figures are down substantially from 2004-2006 collections of approximately 3,000 wings per year. The classification of 2008 wings is presented in Table 5. The statewide production value (chicks per hen ratio) was 1.69 which was a significant improvement over the 2007 all time low of 0.58. The 2008 adult to chick ratio was 0.83:1, which, not surprisingly, is much better than the 2007 ratio of 2.75:1.

2008 SAGE-GROUSE DEMOGRAPHY						
ESTIMATED VIA HUNTER HARVESTED WINGS						
AREA (PMU)	ADULTS		JUVENILES		TOTAL SAMPLE	CHICKS /HEN
	Males	Females	Males	Females		
Western Region						
Sheldon NWR	6	23	32	43	104	3.26
Buffalo/Skedaddle	3	1	9	11	24	N/A
Massacre	2	19	17	25	63	2.21
Vya	0	1	2	9	12	N/A
Santa Rosa	13	33	26	35	107	1.85
Lone Willow	19	75	84	74	252	2.11
Desatoya*	35	33	21	20	109	1.24
Pine Forest	4	8	6	1	19	N/A
Black Rock	0	0	1	1	2	N/A

2008 SAGE-GROUSE DEMOGRAPHY ESTIMATED VIA HUNTER HARVESTED WINGS (continued)						
AREA	ADULTS		JUVENILES		TOTAL SAMPLE	CHICKS /HEN
	Males	Females	Males	Females		
Eastern Region						
Desert	0	0	0	1	1	N/A
Tuscarora	8	4	8	5	25	3.25
Northfork	7	45	43	32	127	1.67
Island	2	1	0	0	3	N/A
O'Neil	9	27	7	8	51	0.56
Snake	10	27	9	11	57	0.74
Gollaher	6	19	8	9	42	0.89
Ruby Valley	1	3	1	3	8	N/A
Southfork	7	25	25	24	81	1.96
East Valley	Season Closed					
Diamond	2	2	5	6	15	5.50
Cortez	8	21	3	14	46	0.81
Three Bar	31	51	36	51	169	1.71
Shoshone	2	4	0	4	10	1.00
Toiyabe	15	46	28	47	136	1.63
Butte/Buck/White Pine	16	27	21	14	78	1.30
Schell/Antelope	2	3	6	5	16	3.67
Spring/Snake	0	1	1	0	2	N/A
Steptoe/Cave	0	0	0	0	0	N/A
Southern Region						
Monitor	11	30	16	26	83	1.40
Reese River	0	8	6	6	20	1.50
Totals:	219	537	421	485	1,662	1.69

Table 8. Wing-Bee Results from the 2008 Nevada sage-grouse hunt.

*** 2007 represented the first year that the Desatoya PMU has had an open sage-grouse season in the past decade.**

Overall nest success values were estimated at 42.5% for 2008. This value is also much improved over the 2007 value of 31% and much closer to annual average production provided in the literature. Average nest success estimated for Nevada is 41.4% based on values from 2002 through 2007.

The 2009 prognosis for much of the Great Basin and surrounding watersheds is optimistic. Western Nevada basin and ranges received between 90 and 96% of average precipitation, much of it being very timely in late spring with moisture coming predominately in the form of rain. In eastern Nevada, all basins received greater than 110% of average precipitation and, like the western portion of the state; much of it was very timely with mild temperatures. Biologists anticipate that production and recruitment for 2009 will be improved over 2008 and certainly better than that encountered in 2007.

SAGE-GROUSE PRODUCTION (chicks per hen)						
LAST FIVE YEARS						
AREA	2004	2005	2006	2007	2008	AVERAGE
Sheldon PMU	2.10	1.24	2.82	0.38	3.26	1.96
Massacre PMU	1.74	1.10	1.27	0.57	2.21	1.38
Vya PMU	1.63	0.79	0.25	2.00	N/A*	1.17
Santa Rosa PMU	0.57	1.67	0.67	0.39	1.85	1.03
Lone Willow PMU	3.02	1.70	0.90	0.81	2.11	1.71
Snake PMU	1.15	1.10	1.21	0.49	0.74	0.94
Elko County	1.37	1.69	1.61	0.67	1.28	1.32
Eureka County	2.04	2.17	1.21	0.55	1.55	1.46
Lander County	2.50	5.13	1.25	0.32	1.58	1.65
White Pine LACP	2.53	1.64	1.92	0.67	1.52	1.66
Nye County	1.00	2.57	2.18	0.67	1.42	1.57
Statewide Average	1.90	1.69	1.13	0.58	1.69	1.40
Sample Size	3,091	2,984	2,813	1,496	1,662	2,387
Statewide Harvest	5,244	3,176	3,710	4,897	5,775	4,560
% of Harvest in Sample	59%	94%	76%	31%	29%	52%

Table 9. Five-year production values for sage-grouse via analysis of wings.

* indicates inadequate sample size to calculate a reasonable estimate.

The effort to collect and properly analyze sage-grouse wings has increased substantially in this decade compared to prior decades. Biologists have relied upon the strategic placement of sage-grouse wing barrels and hunter education to increase the proportion of wings collected in relation to the total statewide estimated harvest. Actual harvest data are derived from the annual Upland Game and Waterfowl Harvest Questionnaire, thus the calculated number of birds harvested from questionnaire data is merely an estimate.

Population Delineation

Reports by: Shawn Espinosa, Curt Baughman, Ken Gray, Jeremy Lutz, Mike Podborny and John Boone (GBBO)

OBJECTIVES

This section describes the work conducted to help achieve objective #5 identified in the Grant Agreement for Sub-grant I, Project #1. The statement basically identified three different objectives related to radio marking efforts and includes the following:

- Verify and/or refine population management unit boundaries that were delineated based on little information or biologist judgment;
- Determine migratory nature of specific populations; and
- Determine response of sage-grouse populations to various treatments or conservation efforts.

SUMMARY

The attachment of radio transmitters to sage-grouse is a technique widely used to delineate a population's seasonal distribution and movement corridors. Standard (VHF) transmitters require regular ground and aerial follow-up, which is labor and equipment intensive.

During state fiscal year 2009, the Nevada Department of Wildlife conducted capture and follow-up efforts in several areas of White Pine County, Lander County and in western Elko County within the Tuscarora PMU (summaries provided below). A total of 68 sage-grouse were captured in FY09 as part of these population delineation projects. Telemetry devices were attached to 53 birds consisting of 37 males and 16 females. Leg bands were applied to the remainder of the captured birds. In addition to birds caught in FY09, 29 birds caught and radio-collared in FY08 were also monitored in FY09. NDOW is utilizing the services of the Great Basin Bird Observatory (GBBO) for much of the follow-up work in White Pine County. Other sage-grouse captures and seasonal habitat delineation projects took place in Eureka County but work was done by the University of Nevada at Reno and data were not available for this report.

Elko County

Willow Creek Reservoir Leks #01, #06 and #19

One hen and 4 male sage-grouse were captured and radio marked on April 23, 2009. All of the grouse were captured on Willow Creek Ridge located in western Elko County. Six sage-grouse (all hens) remained alive from the 2008 capture operation through June 30, 2009. Four additional birds, captured in 2008, were monitored for part of the fiscal year before they died or their collars went off the air. These birds consisted of one hen and three males. Monitoring efforts followed the movements of 15 birds for at least part of the 2009 fiscal year.

The one hen and 4 male sage-grouse captured and radio-marked on April 23, 2009 included a hen captured near the Willow Creek Reservoir 06 lek. One male sage-grouse was captured near the Willow Creek Reservoir 19 lek, one male was captured near the Willow Creek Reservoir 01 lek and two males were radio-marked near the Willow Creek Reservoir 06 lek. Every sage-grouse captured was fitted with a radio transmitter and leg band. All capture locations were documented with GPS coordinates. A total of 6 hens still had functioning transmitters from a trapping operation conducted in April of 2008. With the combination of the

2008 and 2009 efforts there are now 7 hens and 4 males radio-marked in the Willow Creek Ridge area.

Since July 1, 2008, 16 surveys have been directed at monitoring these sage-grouse. Survey efforts have included 5 ground surveys and 11 fixed-wing aerial surveys. Of the 10 grouse that were captured in 2008, 2 males and one female died. The percentage of males that died represented 67% while the one dead female represented a mortality rate of 14%. One of the collars worn by a male grouse went off the air in December 2008. However this male was visually observed on the Willow Creek Reservoir Lek 19 in March 2009. This grouse was captured from the same lek in 2008.

Hen movement from summer range to winter range varied from 7.5 miles to 40 miles with the average being about 22 miles. Three sage-grouse wintered near the confluence of Rock Creek and Antelope Creek which was approximately 23 miles from the lek where they were captured. It appears all three hens ended up in this area independently of each other, which is one of the last remaining areas of sagebrush that didn't burn. These sage-grouse moved through 17 miles of burned habitat to reach this remaining pocket of sagebrush. Another hen also flew over a significant amount of burned country to winter on a remaining island of sagebrush in the Big Butte area. One hen wintered in sagebrush north of Willow Creek Reservoir and one hen wintered in a remaining island of sagebrush near Little Rock Creek.

The limited male data indicates males are primarily summering to the west of the leks which is in the opposite direction from where most of the hens are summering. The average distance of summer range from the leks was about 7 miles. The one male that was collared going into winter ended up in the sagebrush pocket just north of Willow Creek Reservoir.

Despite the fact that over 80% of the area burned, none of the burns were used by hens during any part of their life cycle. One male appeared to make limited use of the burn around Willow Creek Ridge during the summer months.

Based on the distance hens are traveling to winter range, it is apparent winter habitat is the limiting factor for these birds in this fire ravaged area. Significant areas of sagebrush are recovering within the Willow Creek Ridge area. It will be interesting to see if these birds start making use of these restored habitats in the near future. In the meantime it is critical to protect the remaining few pockets of winter habitat.

Eureka County

Eureka County probably has the most radio-marked sage-grouse in the Region but the work is being accomplished by the University of Nevada at Reno and data are not available for this report.

Lander County

Bates Mountain

In late October 2008, 13 sage-grouse were captured and 6 were radio-marked on Bates Mountain, located on the south end of the Simpson Park Mountains. A push for wind energy exploration was initiated on Bates Mountain in 2008 with the erection of one meteorological (met) tower and the clearance of three other sites. This trapping project was designed to show where and how sage-grouse use Bates Mountain in correlation with the erected met towers and cleared sites. Radio collars were placed on 5 males and 1 female. Seven more males were leg-banded following two nights of trapping. All 13 grouse were captured around met tower sites. Following capture, 5 aerial telemetry flights and 4 ground telemetry surveys were conducted. Of the 5 males, two were found 25 air miles to the south of their capture on leks previously unknown. Three new leks were found in association with these birds. One of the

newly discovered leks had the second highest male attendance of the leks counted in Lander County in 2009. The only hen with a transmitter was found in July and August of 2009. During August she was with 14 other grouse comprised of both adults and juveniles. The latest telemetry flight shows that two out of the 6 collared birds are alive and are currently found within ¼ mile of their capture. Three of 4 mortalities located are believed to have died from avian predators and one from the trapping itself. This study will continue with additional trapping and monitoring taking place in 2009.

McGinnis Hills

In April 2009 an attempt was made to trap sage-grouse in the McGinnis Hills. The McGinnis Hills are located on the eastern side of the Toiyabe Range north of U.S. Highway 50 in Lander County. Current geothermal exploration is underway in the McGinnis Hills area. This area has important wintering and brood rearing habitat for sage-grouse. Numerous leks are found in proximity to the area, as well as wet meadows and springs. On a ground survey, 32 grouse were found in early January 2009 wintering within the project area. To better understand the use and movements of grouse in and around the project area, two NDOW biologists attempted to trap in April, but no birds were found. Three attempts have been made to walk the project area and associated meadows to look for grouse, but again, all attempts have been unsuccessful. Trapping attempts will continue in 2009 and 2010.

White Pine County

Follow-up monitoring, as well as additional captures, radio marking and banding of sage-grouse occurred during fiscal year 2009 in White Pine County. One of the studies is being conducted to learn more about sage-grouse use of properties acquired by the Southern Nevada Water Authority for transfer of water to Las Vegas. The Department of Wildlife has utilized the assistance of the Great Basin Bird Observatory in conducting three studies to gain pre-treatment habitat use data in areas where pinyon and juniper tree removal projects are being planned in existing sagebrush habitat. A fifth project is being conducted in association with the Department's Steptoe Valley Wildlife Management Area to gain knowledge of habitat use that could influence land management on and around the area. The relatively high mortality rates documented in most of these studies correlate with declining lek counts in the same general areas.

Duck Creek Basin

During September and October of 2007, a total of 7 sage-grouse consisting of 4 males and 3 females were captured and banded in Duck Creek Basin located in the Schell Creek Range. Of these birds, three males and three females were radio-marked. Numerous surveys (ground and aerial) were conducted between July 2008 and June 2009. All of these grouse were dead or missing by mid-June, 2009. One additional adult male was trapped and collared in October, 2008 but was dead by November. Overall, telemetry follow-up showed that these grouse exhibited strong fidelity to Duck Creek Basin. Grouse used higher elevation summer habitats in the southern and south-western portion of the basin. Grouse chose winter habitat at lower elevations to the north along the Duck Creek bottom and bench areas in the vicinity of Timber and Berry Creeks. Oddly, none of the grouse collared to date have shown any connection with the two biggest known leks in the basin. Efforts to trap grouse directly from these two leks have been unsuccessful. Future efforts will again focus on capturing grouse on these leks, as well as on areas of summer habitat within the northern half of the basin.

North Spring Valley

In April of 2008, 14 sage-grouse were captured and banded in North Spring Valley, located in the Schell/Antelope PMU. These grouse were captured near leks that were chosen for their location close to areas scheduled for pinyon and juniper tree removal. VHF telemetry devices were placed on 7 of these birds consisting of five males and two females. Numerous ground and aerial surveys documented use of the Schell Creek Range and east bench by the majority of these grouse. All 5 males were dead from predation or unknown causes by 10/22/2008. Of the two hens, one was dead by August, 2008 within 6 miles of the lek on which it was trapped. The other hen survived through 2008 was documented 25 miles to the north in Elko County during February 2009, returned to the lek where it was collared and remained in north Spring Valley through June 2009. This hen was not observed with any chicks. Three additional grouse (one male, two females) were captured and collared in September/October 2008 north of the old Henriod Ranch. The yearling female spent the winter in north Spring Valley and spent March and April in an area of no known leks. This bird was still in north Spring Valley through June 2009. The adult female also wintered in north Spring Valley and spent March and April 2009 in the general area of a lek before it was documented dead in mid May. The lone male wintered in north Spring Valley and frequented the Stonehouse Lek during the spring. This male was documented using the east bench of the Schell Creek Range west of the Henriod Ranch prior to July 2009. Two additional grouse (one male and one female) were trapped and collared on the East Stage Canyon Lek in the spring of 2009. The yearling female was not documented as a nester, and spent the remaining portion of the spring and early summer east and north of the old Henriod Ranch. The adult male utilized areas north of the lek prior to moving south and west to the east bench of the Schell Creek Range. This grouse was found dead south of McCurdy Creek near the end of June 2009.

South Spring Valley

The Southern Nevada Water Authority continued telemetry surveys and capture efforts in FY09 with the assistance of Nevada Department of Wildlife personnel. In addition to the 5 sage-grouse that were radio-collared in April 2008, capture efforts took place on eight different nights between July 2008 and June 2009. A total of 20 additional sage-grouse were captured and radio-marked, consisting of 13 males and 7 females. Most of the birds were captured from the vicinity of Minerva and the SNWA owned Shoshone Ranch, however grouse were also captured on the McCoy Creek Ranch, Meadow Creek Ranch, Yelland Ranch, the North Piermont Lek, and general sage-grouse winter range located north of Sacramento Pass. One additional male was leg banded only.

All follow-up surveys were conducted from the ground. In excess of 40 surveys were conducted throughout the year. Many of the grouse that were captured in the Minerva/Shoshone Ranch area moved approximately 20 miles further south in Spring Valley during winter months. Some of these were associated with an unknown lek in the Lincoln County portion of far south Spring Valley during the 2009 breeding season. Two adult males that were captured on the McCoy Creek and Yelland Ranches moved south to winter on the bench around Cleve Creek, and then moved 25 miles north to an unknown lek near Kalamazoo Creek for the breeding season. With rare exception, the grouse collared to date have shown summer range fidelity to private ranch meadows and fields on the valley benches and bottoms. During the winter months these grouse have utilized sagebrush bench areas that are spread over 70 miles in Spring Valley. Seven mortalities were documented during this period, mostly from predation. Two of the hens were documented as nesting, however neither appeared successful.

South Steptoe Valley

In April and May of 2008, a total of 25 sage-grouse were captured in the south Steptoe Valley area. Of these birds, 6 were radio-marked consisting of one female and 5 males. Monitoring of these grouse continued through FY09. For the most part, the males chose independent summer, fall and winter habitats within 22 miles of the leks where they were collared. Only once was a male documented outside the confines of south Steptoe and north Cave Valleys, the Egan Range on the west and the Schell Creek Range on the east. This particular male spent a portion of fall 2008 in the Upper Terrace country on the west side of the Egan Range. Of the five males, one either died or slipped its collar in October 2008 in the Egan Range NW of Bullwhack Summit. Three of the remaining 4 died in March and April 2009 in the vicinity of the leks they were originally trapped on in 2008. The remaining male returned to its respective lek in spring 2008 and has since returned to the same general portion of the Egan Range where it spent summer 2008. The lone female spent the summer in Cave Valley near the Cave Valley Ranch, wintered further south, returned to south Steptoe Valley for the breeding season and returned to Cave Valley for summer 2009.

Six additional grouse were radio-marked in March 2009 consisting of 4 adult males, one adult female and one juvenile female. Telemetry follow-up through June documented 2 male mortalities near leks and the loss of the yearling female on summer range east of Horse Camp Wash. As of June, the remaining 3 grouse were all alive and moving into summer ranges on the west side of north Cave Valley.

The leks in south Steptoe Valley where these grouse were trapped are all located on ageing crested wheatgrass seedings. It was noted this March during lek counts that residual grass cover was nearly nonexistent on these leks. Poor growth during the 2007-08 drought coupled with heavy livestock use and heavy snow cover combined to produce these conditions.

Steptoe Valley/SVWMA

Building upon the single hen that was captured and collared in FY08, 8 additional grouse were captured in FY09. In October, November and December, two juvenile males and one adult male were captured near SVWMA and fitted with VHF transmitters. Three juvenile females were also captured and banded. Telemetry follow-up over the winter revealed that these males utilized more than 20 miles of the west Schell Creek bench on the east side of Steptoe Valley. In April 2009, telemetry surveys documented two of the males on different leks. A juvenile male was tracked to a small known lek south of SVWMA while the adult male was documented on an undiscovered strutting ground above the north end of SVWMA and just two miles east of Ely. Two additional adult males were then collared on this lek of 14 males. Telemetry surveys during the spring and early summer have documented three of the males utilizing meadow habitats on SVWMA while the other two have ranged up to 22 miles into far south Steptoe Valley. The hen remained sedentary in comparison and appeared to nest very close to last year's location a little south of SVWMA. Since capture (2/08) all of the observations for this grouse have been confined to an area of roughly 6 square miles.

A priority for spring 2010 will be the radio-marking of females near the new lek above SVWMA. Follow-up monitoring could provide insights into habitat use of SVWMA with implications for land management.

CONSERVATION PLANNING

Governor's Strategic Planning

State: Nevada Grant Title: Nevada Sage-grouse Conservation Project

Grant No.: W-64-R-9 Sub-Grant Title: Conservation Planning
Sub-Grant No.: II Project Name: Statewide Planning
Project No.: 1 Job Title: Statewide Strategic
Planning

Job No.: 1

Period Covered: July 1, 2008 – June 30, 2009
Report by: Shawn Espinosa

OBJECTIVES

The major objective of the Nevada Governor's Sage-grouse Conservation Team (SGCT) is to assist local working groups with the implementation of prioritized projects. Other objectives include completing the Second Edition of the Greater Sage-grouse Conservation Plan for Nevada and Eastern California and developing semi-annual workshops.

SUMMARY

During fiscal year 2009, the SGCT held 5 meetings. A considerable amount of staff time is spent coordinating and facilitating the meeting as well as developing agendas. Minutes are also developed for each meeting. The following were some major topics discussed during the meetings:

- Nevada Sage-grouse Conservation Efforts database;
- Understanding potential impacts of renewable and non-renewable energy development;
- Establishing standards for energy development to help conserve sage-grouse;
- Sage-grouse petition (litigation) updates;
- Sage-grouse population status and trend;
- Priority sage-grouse habitat mapping; and
- Pursuing Candidate Conservation Agreements for sage-grouse

A draft document entitled "Energy and Infrastructure Development Standards to Conserve Greater Sage-grouse in Nevada" was completed in May and distributed for review. A second draft of the document will be developed in the early portion of fiscal year 2010 and a final document is expected to be completed by the end of 2009.

A total of **\$16,000.00** was identified to complete two specific jobs under Sub-grant II (Conservation Planning), Project #1 (Statewide Conservation Planning): Job #1 (Statewide Governor's Strategic Planning) and Job #2 (Sage and Columbian Sharp-tailed grouse Technical Committee). In state fiscal year 2009, **\$9,030.93** was expended on this particular job while **\$10,161.33** was expended conducting work related to the Technical Committee. The total for conducting work on both jobs was **\$19,192.26** which represents an over-expenditure of **\$3,192.26**. Much of this over-expenditure is due to the work involved with completing the white paper and WAFWA position statement on the use of prescribed fire in xeric sagebrush ecosystems. The "Energy and Infrastructure Development Standards to Conserve Greater Sage-grouse in Nevada" document also was responsible for a portion of the over-expenditure. However, both documents are important to the long-term management recommendations for sustainable sage-grouse populations.

Sage and Columbian Sharp-tailed grouse Technical Committee

State: Nevada Grant Title: Nevada Sage-grouse Conservation Project

Grant No.: W-64-R-9 Sub-Grant Title: Conservation Planning
Sub-Grant No.: II Project Job Title: Statewide Planning
Project No.: 1 Job Title: Sage and Columbian Sharp-tailed grouse Technical Committee

Job No.: 2

Period Covered: July 1, 2008 – June 30, 2009
Report by: Shawn Espinosa

SUMMARY

Staff with the Department spent a considerable amount of time working with other state wildlife agency leads for sage-grouse developing a white paper and position statement on the use of prescribed fire in xeric sagebrush ecosystems. This assignment was recommended as a need to the Western Association of Fish and Wildlife Agencies (WAFWA) – Bird Conservation Committee and completed at their request. A very comprehensive literature review was conducted to develop conclusions and recommendations on the correct use of this tool within the sagebrush biome. The positions statement reads as follows:

"Sagebrush grasslands, which support sage-grouse and a host of other wildlife species, have declined in area by more than 50%. Remaining habitats are becoming increasingly important to the sustainability of sage-grouse. These habitats face considerable threats from wildfire, conversion, exotic plant invasion, and many forms of human development. In addition to these perturbations, treatments are often recommended to set back succession in sagebrush communities. Prescribed fire is often promoted to achieve this objective, which has the potential to alter sagebrush communities for long periods of time. As agencies responsible for conserving wildlife associated with these habitats, we strongly caution against the use of prescribed fire within xeric sagebrush communities. Exceptions may apply, but only if a comprehensive assessment indicates desired sage-grouse habitat objectives will be achieved. Such areas typically receive ≤ 12 inches precipitation and include Wyoming big sagebrush, low elevation mountain big sagebrush, and low or black sagebrush communities. Prescribed fire fragments and reduces available sagebrush stands and increases the risks for cheatgrass and other invasive weed establishment, leading to negative impacts to seasonal sage-grouse habitats. These changes can result in long term effects on sage-grouse populations. Further, we recommend maintaining sagebrush through a conservative long-term approach to management and habitat restoration."

In addition to this work, staff also assisted with the development of Recommendations and Informational Notes for the WAFWA – Bird Conservation Committee. Three Recommendations and three Informational Notes were developed including the following:

- Recommendation 1 – Interim Guidelines for Evaluating the Impacts of Energy Development

- Recommendation 2 – Sage-grouse Habitat Mapping
- Recommendation 3 – Fire Management in Xeric Sagebrush Habitats
- Informational Note 1 – NASECA Status Report
- Informational Note 2 – Studies in Avian Biology Sage-grouse Volume Status Report
- Informational Note 3 – Habitat Assessment Framework Update

Each of these items took a considerable amount of time to review and develop final products. They are expected to play an important role in the future management for sage-grouse and sage-grouse habitat conservation.

A total of **\$16,000.00** was identified to complete two specific jobs under Sub-grant II (Conservation Planning), Project #1 (Statewide Conservation Planning): Job #1 (Statewide Governor's Strategic Planning) and Job #2 (Sage and Columbian Sharp-tailed grouse Technical Committee). In state fiscal year 2009, **\$9,030.93** was expended on this particular job while **\$10,161.33** was expended conducting work related to the Technical Committee. The total for conducting work on both jobs was **\$19,192.26** which represents an over-expenditure of **\$3,192.26**. Much of this over-expenditure is due to the work involved with completing the white paper and WAFWA position statement on the use of prescribed fire in xeric sagebrush ecosystems. The "Renewable Energy Guidelines to Conserve Greater Sage-grouse Populations and Their Habitats in Nevada" document also was responsible for a portion of the over-expenditure. However, both documents are important to the long-term management recommendations for sustainable sage-grouse populations.

Local Area Conservation Planning & Implementation

State: Nevada Grant Title: Nevada Sage-grouse Conservation Project

Grant No.: W-64-R-9 Sub-Grant Title: Conservation Planning
Sub-Grant No.: II Project Job Title: Local Area Conservation Plans
Project No.: 3 Job Title: Local Sage-grouse Conservation
Planning and Implementation

Job No.: 1

Period Covered: July 1, 2008 – June 30, 2009
Report by: Shawn Espinosa, Steve Foree and Curt Baughman

OBJECTIVES

The following objectives were identified in the W-64-R-9 Grant Agreement for this particular job:

- Complete any unfinished population management unit plans, revise existing plans and refine projects identified within those plans; and
- Assist with and/or conduct implementation of suggested projects within completed plans.

The following summaries describe the work accomplished during state fiscal year 2009 including project implementation, population management unit planning and major habitat issues.

Elko County LACP

SUMMARY

The Northeastern Nevada Stewardship Group and its Sage-grouse POD subcommittee serves as the local working group for this particular region. The major focus of this group has been completing an assessment of the Tuscarora PMU and watersheds, or sub-basins, within this PMU. In early 2009, Great Basin Ecology, Inc. completed a broad assessment of the Tuscarora PMU as well as watershed assessments for the Independence, Willow Creek, and Rock Creek Basins. Funding for this work was provided by the Nevada Division of State Lands Question 1 bond program initiative. These assessments led to recommendations that largely centered on a more concerted effort to control noxious weeds and more intensive livestock grazing management. Implementation of weed control efforts and improved livestock grazing strategies hinges on the ability of the BLM – Elko District and private interests to work together and perform these tasks in a timely fashion.

In 2008, the Nevada Department of Wildlife provided \$50,000 to the BLM – Elko District to assist with weed treatment in the Susie Creek watershed located north of Carlin, Nevada. Approximately 5,000 acres of this watershed has been invaded by scotch thistle as a result of the 2006 Susie Creek Fire. Approximately \$10,000 of NDOW funding was initially used to employ a 10 person weed crew to treat thistle along the Susie Creek riparian pasture. This crew treated 77 acres of scotch thistle with backpack sprayers using the chemical Transline® during May of 2009. Some minimal NDOW funding was also used to help pay for the Ruby Mountain

Hotshot Crew to hand chop thistle in areas inaccessible to the BLM's weed spraying equipment. The Hotshot Crew consisted of 20 people with hand tools that treated over 164 acres. The remaining balance of funds (approximately \$40,000) was used to help pay for the cost of mechanical spraying using a tractor outfitted with a 500 gallon weed spraying unit which included a boom that sprays a width of 47 feet (Figure 1). A total of approximately 600 acres was treated using the tractor and spray rig. The Susie Creek Cooperative Riparian Restoration Project was jointly funded with NDOW and BLM funds. The initial objective of the project was to improve habitat conditions for Lahontan Cutthroat Trout; however, the long term benefits of removing noxious weed will improve habitat conditions for a variety of species and aid in the restoration of this watershed, which is important for sage-grouse in this region.



Figure 1. A BLM tractor and spray rig treats scotch thistle in the Susie Creek watershed. Photo provided by BLM – Elko District.



Figure 2. Post treatment response of desirable vegetation. Photo provided by BLM – Elko District.

Lincoln LACP

SUMMARY

Much of the work within the Lincoln LACP focused on the implementation of projects funded through the Southern Nevada Public Lands Management Act. These projects involved several different treatments that were conducted in Cave Valley, Hamlin Valley, South Lake Valley and South Spring Valley and included the following:

- 4,000 acres of double chaining to remove pinyon and juniper encroachment including aerial seeding;
- 2,400 acres of sagebrush restoration using smooth chaining coupled with aerial seeding;
- 2,400 acres of sagebrush thinning using roller chopper coupled with drill seeding;
- 1,000 acres of sagebrush thinning using a mower coupled with drill seeding;
- 600 acres of hand cutting pinyon and juniper around active lek sites.

The seed mixes used at the treatment sites varied according to the characteristics at each site. Some of the species included native grasses such as Indian ricegrass, squirreltail, Sandberg bluegrass and needle and thread grass as well as native forbs such as Lewis flax, globemallow and western yarrow. To a lesser extent, Great Basin wildrye, blue grama and small burnett was used on a site specific basis.

White Pine LACP

SUMMARY

The White Pine local conservation planning area includes four main PMU groups including the Butte/Buck/White Pine, Schell/Antelope, Spring/Snake Valley and the Steptoe/Cave PMUs. Of these, the Butte/Buck/White Pine PMU group is the largest in terms of area and also harbors the most significant sage-grouse population within the White Pine LACP at 4,429 sage-grouse (2008 minimum spring breeding population estimate). Activities within this planning area continue to be associated with intensive lek monitoring, telemetry studies and agency specific projects, some of which have the potential to directly or indirectly benefit sage-grouse habitats.

There are essentially three main pinyon and juniper removal projects on public lands within the BLM Ely District that have been identified to primarily benefit sage-grouse at this time. The project areas include the Duck Creek Basin, North Antelope Range and the Stonehouse area. Although the main objective is to prevent pinyon and juniper from eventually overtaking and outcompeting the sagebrush component of these areas, these projects will all benefit sage-grouse by helping to ensure the long-term sustainability of the sagebrush community and its associated understory. The following are synopsis of each project.

Duck Creek Basin:

This project involves hand removal utilizing chainsaws of mainly younger age class juniper trees, but could also involve some pinyon trees. BLM has been using the Nevada Conservation Corps to conduct the work. This project area was selected because of its close proximity to the two largest known leks in Duck Creek Basin (Timber Creek Turnoff and Paine Meadow). These leks supported 25 and 18 males respectively in 2004 and represented the high count for these leks combined. The project area is considered to be winter, breeding, nesting and early brood habitat.

Acres: Current acreage is designated at approximately 1,000 acres; however, the project area could be expanded by an additional 1,000 acres if additional funding was available.

Approximately 200 acres has been treated by Great Basin Institute – Nevada Conservation Corps (GBI-NCC).

Funding: Currently funded through BLM Wildlife Habitat Enhancement funds. Additional funding for state fiscal year 2010 has been made available through the NDOW Sage-grouse Conservation Grant and Question 1 funding. NDOW will seek an additional \$45,000 for this project, which will fund 3 GBI-NCC tours of 8 days each for a total of 24 days of work.

North Antelope Range:

This project area is approximately 10-12 miles east of Lages Station and involves the hand removal of pinyon and juniper trees utilizing chainsaws. Other removal techniques could be considered here in the future. The north Antelope Range contains key summer/late brood rearing habitat and a significant sage-grouse resource. The project areas are on the lower elevation benches surrounding the summer range, and are considered to be sage-grouse winter, breeding and potentially nesting and early brood rearing habitat; however, little is known regarding the seasonal movements of these birds. Two active leks are located within three miles of the project areas. It is unknown at this time if Great Basin Institute – NCC crews will conduct the removal or NDF Conservation Camp crews will be utilized.

Acres: Current acreage is designated at 1,000 acres; however, the project area could be expanded by an additional 500 acres if more funding was made available.

Funding: Currently the project is has been identified for stimulus funding [American Recovery and Re-investment Act (ARRA)]. Additional funding could be made available through NDOW Sage-grouse Conservation Grant and Question 1 funding. NDOW will seek an additional \$100,000 in funding for this project.

Stonehouse:

This project is also involves the hand removal of pinyon and juniper trees within sage-grouse habitat. It is located on the west side of the Antelope Range in north Spring Valley. Limited telemetry data suggests that this bench is utilized as winter, breeding, nesting and early brood rearing habitat. The two large leks which are located within the project area (Stonehouse and Stage Canyon East) supported 40 and 24 males respectively in 2007. These grouse are thought to utilize summer habitats at higher elevations in the nearby Antelope and Schell Creek Ranges. National Environmental Policy Act documentation is currently being developed and an Environmental Assessment is expected to be out in November of 2009.

Acres: The current project area is approximately 2,000 acres.

Funding: Some stimulus funds are available to complete approximately 700-800 acres of treatment. Additional funding will be necessary to complete the remaining balance (1200-1300 acres). NDOW will attempt to seek an additional \$100,000 for this project.

Bi-State LACP

SUMMARY

Much of the project work in fiscal year 2009 centered on the China Camp area located in the Mount Grant PMU. The overall goal of this project is to restore and improve the existing condition of nesting and brood rearing habitat by reducing the canopy cover and density of encroaching pinyon and juniper trees into existing sagebrush habitats. The total project area encompasses approximately 700 acres. Two sage-grouse leks are associated with the project

area, one of which is active. The active lek has had as many as 46 total birds counted on it in 2006. The total cost of the project was estimated at \$80,000. The Nevada Department of Wildlife provided \$40,180 through an Interlocal Contract of which \$20,090 has been provided to date. Additional funding through the W-64-R-10 grant has been identified with required matching funds made available through NDOW's Question 1 bond initiative.

North Central LACP

SUMMARY

The North Central planning area encompasses Humboldt, Churchill, and Pershing Counties and contains the largest number of Population Management Units (PMUs) of any planning area at 19. During state fiscal year 2008, two additional PMU plans were completed including the Jackson PMU and the Sonoma PMU plans. Additionally, drafts were completed for 9 other PMU plans that accounted for a total of 12 PMUs. In summary, 7 PMU plans have been completed and 12 are in draft form.

A fuel break was developed in 2008 within the Santa Rosa PMU in the South Fork of the Quinn River drainage to help protect important sage-grouse, mule deer and pronghorn habitat from future wildfire (see Figure 3). A Dixie Harrow was utilized to prepare the seed bed and create a green strip approximately 100 feet wide and 9.3 miles long (approximately 86 acres in size). A portion of the green strip is situated along the BLM/USFS boundary to help slow a fire or even stop a fire that may move from lower elevation BLM lands to the west to upper elevation USFS lands to the east of the strip. The strip has been treated with Plateau® herbicide to help control cheatgrass and has subsequently been seeded. The seed available for the project included both native and non-native species. The non-native species included forage kochia and crested wheatgrass to help suppress cheatgrass. Native seed used along portions of the green strip included mountain big sagebrush and Great basin wild rye. Initial inspection of the project shows that the use of Plateau® was a success and should allow the seed mix to become established. NDOW's Habitat Conservation Fee program contributed \$50,000 to this project.



Figure 3. Photo depicts green strip in October 2009. Very little cheatgrass has established within the strip. Photo provided by USFS – Santa Rosa Ranger District.

Work continues in the Desatoya PMU to implement the Haypress Meadow Restoration Project. A pipe rail fence will be used to exclude livestock and wild horse grazing in order to allow the site to recover. This project encompasses 23 acres and is located in the upper elevations of the Smith Creek watershed. All materials have been purchased for this project with funding being made available through the Nevada Chukar Foundation, Carson Valley Chukar Club and the Nevada Upland Game Stamp program. This project has been delayed due to increasing prices of steel and the need to seek additional funding.

Washoe-Lassen-Modoc LACP

SUMMARY

The Washoe-Lassen-Modoc LACP is made up of six Population Management Units including the Vya, Massacre, Sheldon, Buffalo/Skedaddle, Virginia and Pah-Rah PMUs (a single PMU plan was developed for the Virginia and Pah-Rah PMUs) The Buffalo/Skedaddle and Vya PMUs cross state boundaries and are managed jointly with California.

The Nevada Department of Wildlife contracted with the USGS – Western Ecological Resource Center in state fiscal year 2009 to conduct intensive sage-grouse monitoring in the Virginia Range (Virginia/Pah Rah PMU). This population of sage-grouse faces threats from suburban development, wind energy development and a recently constructed 345kV transmission line placed within two miles of a recently discovered lek. Funding for this work was provided by the Nevada Department of Wildlife's *Wildlife Heritage Trust Account* (\$30,000), the Carson Valley Chukar Club, and the Nevada Chukar Foundation. Future work in FY2010 will be funded in part by the W-64 Segment 10 Grant. Assistance for sage-grouse capture work was provided by personnel of the Nevada Department of Wildlife during FY09. To date, 29 sage-grouse have been radio-marked within this population consisting of 24 females and 5 males. Intensive follow-up of radio marked birds has provided valuable information on movement patterns, habitat selection including nest site selection and vegetative characteristics at and near the nest site.

South Central LACP

SUMMARY

The South Central Local Conservation Planning area consists of Eureka, Lander and Nye Counties. There are 10 PMUs within this planning area and most are very remote. The South Central local working group has continued with the implementation of recommendations and projects outlined in both the Fish Creek PMU and Battle Mountain PMU planning documents.

A major focus for this planning area for the last two years has been on Roberts Creek Mountain located in the Three Bar PMU within Eureka County. The mountain serves as important nesting and brood rearing habitat for sage-grouse that winter and breed in the surrounding valleys (Kobeh and Pine). Documentation regarding the importance of this mountain has been demonstrated through the University of Nevada, Reno and the ongoing Falcon to Gonder Transmission Line study. Like the China Camp project in Mineral County, this project also involves the use of hand removal of pinyon and juniper trees in existing sagebrush habitats. Specific areas, such as Vinini Creek and Willow Creek were targeted because of the documentation of nesting hens within the area.

In fiscal year 2009, NDOW amended the existing contract with the University of Nevada Cooperative Extension and the Bootstraps Program to provide an additional \$33,864.00 worth of funding for the project. In total, NDOW has provided a total contractual amount of \$80,715.00 for this project. In fiscal year 2009, NDOW expended \$39,708.56 on this particular project. Over

6,500 hours of personnel time has been spent to treat more than 1,200 acres of sagebrush habitats encroached by pinyon and juniper trees. In most areas, succession to a closed stand of pinyon and juniper has been set back from 50 to over 100 years, affording sage-grouse long-term habitat suitability.

Additionally, initial work has begun on the Bald Mountain Wildlife Habitat Enhancement Project in the northern portion of the Toiyabe PMU. This project also involves pinyon and juniper thinning and removal on as many as 3,000 acres of an 18,000 acre project area. The Bureau of Land Management – Mt. Lewis Field Office has solicited public comment on this project and the anticipated start date is the spring of 2010. The Nevada Department of Wildlife will be contributing funding for the project through the W-64 Grant (Segment 10) utilizing Question 1 bond funds as match. Pinyon and juniper removal will be accomplished with the use of qualified hand crews using chainsaws.

Expenditures

The original amount identified within the W-64-R-9 Grant Agreement to complete Local Area Conservation Planning and Implementation was \$238,400. The actual expenditure for planning efforts and implementation of projects was \$85,387.69. For some projects, full implementation was not completed during fiscal year 2009. Because the state fiscal year ends on June 30th, the full field season of implementation activities are not realized during a fiscal year.

RESEARCH

Habitat Relationships

State: Nevada Grant Title: Nevada Sage-grouse Conservation Project

Grant No.: W-64-R-9 Sub-Grant Title: Research
Sub-Grant No.: III Project Job Title: Habitat Relationships
Project No.: 1 Job Title: Sage-grouse Habitat Relationships
Job No.: 1

Period Covered: July 1, 2008 - June 30, 2009

Report by: Shawn Espinosa

SUMMARY

This job was inactive for the work period. No projected expenditures were identified for this project; however, there may be future opportunities for research on sage-grouse habitat relationship so this project name and number will remain as a placeholder.

Mortality Relationships

Harvest Impacts: Eureka County

State:	<u>Nevada</u>	Grant Title:	<u>Nevada Sage-grouse Conservation Project</u>
Grant No.:	<u>W-64-R-9</u>	Sub-Grant Title:	<u>Research</u>
Sub-Grant No.:	<u>III</u>	Project Name:	<u>Mortality Relationships</u>
Project No.:	<u>2</u>	Job Title:	<u>Harvest Impacts</u>
Job No.:	<u>1</u>		
Period Covered:	July 1, 2008 – June 30, 2009		
Report by:	Mike Podborny and Shawn Espinosa		

OBJECTIVES

The objective for this particular job is to better determine harvest rates for certain areas distributed across Nevada to ensure that they are within acceptable levels according to Western Association of Fish and Wildlife Agency (WAFWA) guidelines (Connelly et al. 2000). These efforts will also help determine better population estimate parameters.

SUMMARY

This job is being conducted in conjunction with ongoing research performed by the University of Nevada, Reno (UNR). The intent of the research is to determine the effects of a transmission line that was recently constructed in sage-grouse habitat in east-central Nevada. UNR captures and marks sage-grouse in both the spring and the fall. NDOW assists with the capture of sage-grouse in the fall of each year. All birds are marked with leg bands and a proportion is radio-marked with VHF telemetry devices. This opportunity lends itself to a fairly simple mark-recapture effort with regard to determining a population estimate for this area, mainly because of the fall hunting season and presents an opportunity to determine harvest rates. The Guidelines to Manage Sage-grouse Populations and Their Habitats (WAFWA Guidelines) (Connelly et al. 2000) suggests that harvest rates should not exceed 10% of the estimated fall population and that populations should not be hunted where ≤ 300 birds comprise the breeding population (i.e., ≤ 100 males are counted on leks) [C.E. Braun, Colorado Division of Wildlife, unpublished report].

During the capture effort in the late summer of 2008, a total of 26 sage-grouse were captured consisting of 16 adult hens, 2 adult males and 14 chicks. Radio transmitters were placed on 21 individuals. Information gained from these individuals has allowed researchers to estimate nest initiation rates, nest fate, vegetative characteristics associated with the nest and survival among other population dynamic variables.

The number of bands actually recovered from hunters in addition to actual re-sighting has allowed for the estimation of the male segment of the population (see Table 10 below). Male population estimates have decreased by 111% since the inception of the study in 2003. It is interesting to note that, for the first four years of the study, harvest of adult males was well within the accepted guidelines ($\leq 10\%$ of the estimated fall population); however, for the last two years, harvest rates on adult males remained the same ($n=41$) while population estimates declined by 55% from 2006 to 2008. One must, however, consider that the male population estimate is derived from lek counts that are conducted as part of the study and represent only a proportion (albeit a fairly significant proportion) of the total leks in the three PMUs involved.

Year	Male Population Estimate	Standard Error	Adult Male Harvest	% of Adult Males Harvested
2003	448	93	36	8.0%
2004	335	41	29	8.7%
2005	379	44	24	6.3%
2006	475	66	36	7.6%
2007	317	58	41	12.9%
2008	212	31	41	19.3%
Averages	361	56	36	10%

Table 10. Annual estimates of the male population of sage-grouse within the Falcon to Gonder Transmission Line Study area.

During state fiscal year 2009, a total of **\$7,308.31** was expended assisting UNR with the capture of sage-grouse including travel and mileage. A total of \$15,000 was identified in the W-64-R-9 Grant Agreement for the project leaving a remainder of **\$7,691.69**.

COORDINATION

State: Nevada Grant Title: Nevada Sage-grouse Conservation Project

Grant No.: W-64-R-9 Sub-Grant Title: Coordination
Sub-Grant No.: IV Project Job Title: Project Coordination
Project No.: 1 & 2 Job Title: Intra & Inter-agency Coordination

Period Covered: July 1, 2008 – June 30, 2009
Report by: Shawn Espinosa

OBJECTIVES

The objective of this particular job is to ensure consistent monitoring efforts for the species across agencies and keep personnel abreast of pertinent planning and implementation efforts by coordinating within and amongst state and federal agencies.

SUMMARY

Intra and Inter-agency coordination (both federal and state agencies) is often a difficult, but very important component of proper management of sage-grouse and their habitats. Over 80% of Nevada is federally administered public land making it imperative that the Nevada Department of Wildlife work with the Bureau of Land Management and the U.S. Forest Service on a consistent basis with regard to land use planning, habitat enhancement or restoration projects and certain consumptive multiple uses of these lands. Statewide coordination meetings are held annually with the Bureau of Land Management and US Forest Service to discuss projects, management techniques and National Environmental Policy Act documentation necessary to conduct certain projects. In addition to these coordination efforts, annual meetings are held within the Game Division to discuss management issues related to sage-grouse.

A total of **\$3,602.72** was expended on coordination in state fiscal year 2009. The W-64-R-9 Grant Agreement identified a total of **\$10,000.00** leaving a remainder of **\$6,397.28**. Many of the issues that normally are coded to this job are general in nature and not specific to a certain area or population management unit. However, there are some instances where local issues have ramifications for entire regions, districts or even at a statewide level. In FY2009, many tasks that would have been coded to this job were likely germane to other jobs such as Statewide or Local Conservation Planning. Some examples include the “Renewable Energy Guidelines to Conserve Greater Sage-grouse and Their Habitats in Nevada” which was handled through the Statewide Conservation Planning Team and project specific items such as field tours of project sites that would be coded to Local Area Conservation Planning and Implementation.

ADMINISTRATION

OBJECTIVES

This project provides oversight regarding personnel assignments, proper tracking of time spent on projects identified within the W-64-R-8 Grant Agreement and administrative issues regarding the development and implementation of contracts or agreements.

SUMMARY

The majority of tasks associated with “administration” involve grant preparation and job progress report writing. Other miscellaneous items such as budget development, tracking, and cost accounting are also some responsibilities associated with this job title. The administrative costs for this project amounted to **\$11,691.95** in state fiscal year 2008. The original budget identified in the W-64-R-9 Grant Agreement was **\$8,253.00** resulting in a difference of **\$3,438.95**.