

# BUREAU OF LAND MANAGEMENT

## ELKO DISTRICT Tuscarora Field Office

### DRAFT STANDARDS AND GUIDELINES FOR RANGELAND HEALTH ASSESSMENT

# Wilson Mountain Allotment



**June 2012**  
**4130 (NV02000)**



# Wilson Mountain Allotment Standards and Guidelines Assessment

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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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Cover Photo: Looking west towards the Owyhee Desert from the Wilson Mountain Allotment, a coyote watches as specialists collect vegetation data. Photo taken by Casey Addy.

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# **NORTHEASTERN GREAT BASIN STANDARDS AND GUIDELINES ASSESSMENT WILSON MOUNTAIN ALLOTMENT**

## **Elko District, Tuscarora Field Office**

**June 2012**

### **1.0 Introduction**

In accordance with 43 CFR 4180, the Tuscarora Field Office is required to complete standards and guidelines assessments on grazing allotments in order to determine whether or not existing grazing management practices are resulting in the attainment of the standards for rangeland health and are in conformance with the guidelines. The approved standards for rangeland health that are to be evaluated for the Wilson Mountain Allotment include the following:

Standard 1. Upland Sites: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

Standard 2. Riparian and Wetland Sites: Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Standard 3. Habitat: Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet life cycle requirements of threatened and endangered species.

Standard 4. Cultural Resources: Land use plans will recognize cultural resources within the context of multiple-use.

Standard 5. Healthy Wild Horse and Burro Populations: This standard does not apply to this allotment. There are neither wild horse herd management areas nor wild horses within the Wilson Mountain Allotment.

### **2.0 Allotment Information**

The Wilson Mountain Allotment is located in northern Elko County Nevada, approximately 60 miles northeast from the city of Elko (Map 1). The allotment is 4,495 total acres, including 3,168 acres of public lands (70%), and 1,327 (30%) acres of private lands. Elevations of the allotment are 5,550 feet above sea level at the lower elevations to 8,510 feet above sea level at the highest peak. 648 acres of private lands located within the allotment were burned by the 2007 Petan-Wilson fire (Map 3, Section 7.1). The allotment provides seasonal and yearlong habitat for over 250 species of wildlife; including various types of big game, small mammals, game birds, passerine/songbirds birds, and BLM special status species such as Pygmy rabbits and Greater Sage-grouse.

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The allotment is grazed by only one livestock permittee, the Petan Company of Nevada (Petan). There is currently no domestic sheep grazing, only cattle grazing, within the allotment.

In 2006 the BLM issued an Environmental Assessment (EA) for the Temporary Non-Renewable Use (TNR) within the allotment for 145 Animal Unit Months (AUMs) beyond their annually permitted 308 AUMs. At the request of Petan in 2010, the BLM issued a Determination of NEPA Adequacy (DNA) also for TNR that increased the amount of AUMs from 145 to 166.

### 3.0 Soils, Ecological Sites, and Precipitation Averages

#### 3.1 Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey online computer program was used to generate information about the soils located within the Wilson Mountain Allotment (see Figure 1). This information, along with information found in the ecological site descriptions (see section 3.2) were used to compile information about the soils at the allotment. The following table shows the soils and associations found within the allotment:

Map Unit Symbol	Map Unit Name	Percent of Allotment
1	Rubble Land, No Soil Classification	9%
190	Heechee-heechee, cobbly association	37%
464	Stampede silt loam	11%
583	Sumine-Hapgood-Pemty Association	43%

Table 1. Soils and Associations found at the Wilson Mountain Allotment.

Stampede silt loam soils are moderately deep to deep and well drained. Surface soils are silty, moderately fine to medium textured, and are normally more than 10 inches thick to the subsoil and underlying material. The available water capacity is low to moderate and some soils are modified with high volumes of rock fragments throughout the soil profile. Runoff is slow to moderate and the potential for sheet and rill varies with slope gradient (NRCS 2012).

Heechee-heechee, cobbly association soils are typically silty soils, which are moderately deep to very deep and are well drained. Surface soils are moderately fine to medium textured and more than 10 inches thick to the subsoil or underlying material. The available water capacity is moderate to high. Runoff is slow to medium. Potential for sheet and rill erosion is slight to moderate depending on slope. Taxonomic classification for this soil is: loamy-skeletal, mixed, frigid, Typic Argixerolls (NRCS 2012).

Sumine-Hapgood-Pemty Association soils are typically silty-loam soils, which are deep to moderately deep and well drained. Surface soils are medium to coarse textured and more than 10 inches thick. These soils are modified with 35 to 50% rock fragments throughout the soil profile. Available water capacity is low to moderate. Because of the southerly exposures of this site,

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more sunlight is received and the soils tend to warm and plant growth initiated earlier than on adjacent sites. High evapotranspiration potentials result in depletion of the available soil moisture supply sooner than on surrounding areas at elevations where this site occurs. Runoff is medium to rapid and the potential for sheet and rill erosion is moderate to high depending upon slope (NRCS 2012).

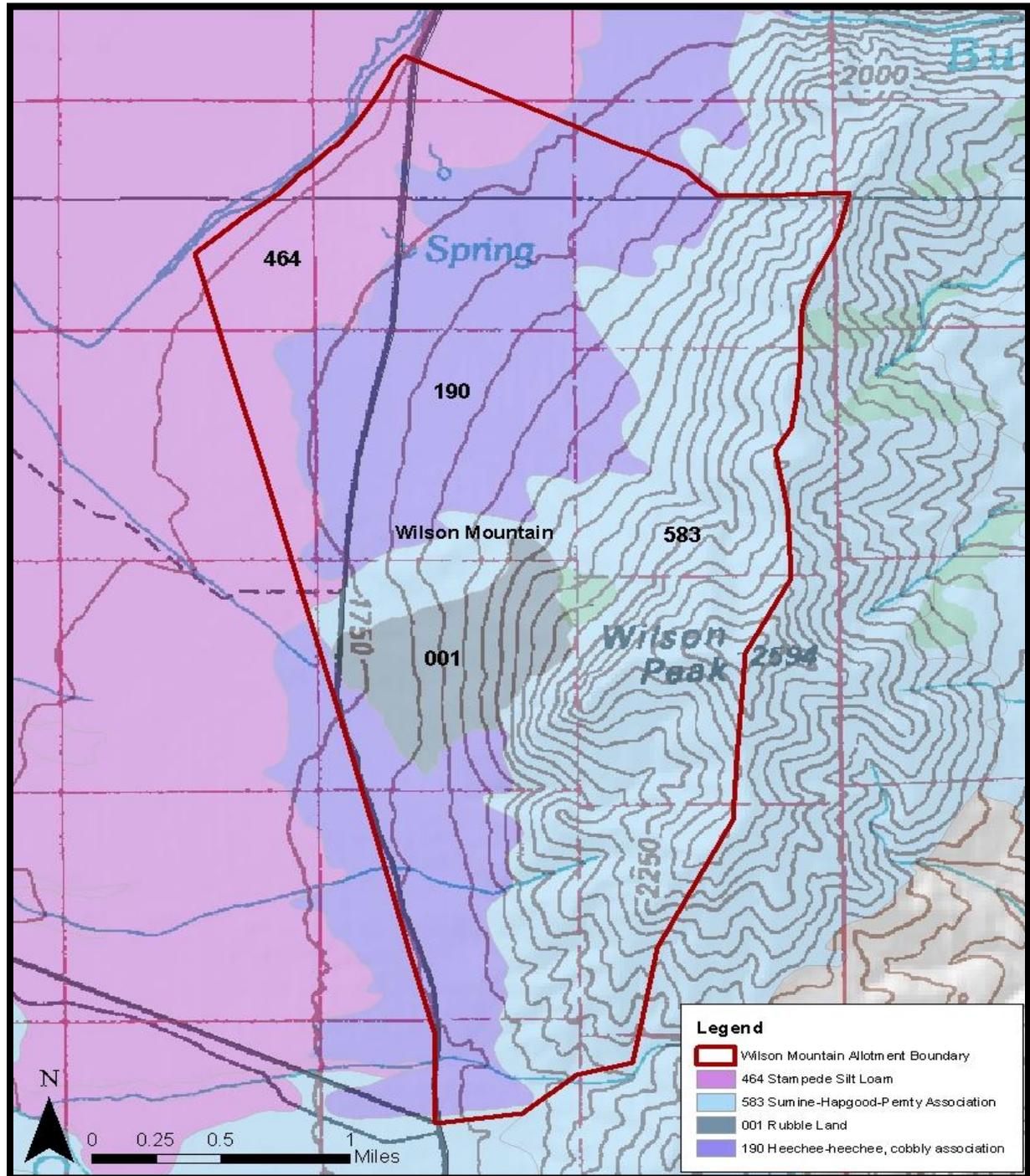


Figure 1. Soils and Associations found at the Wilson Mountain Allotment.

### 3.2 Ecological Sites

Ecological sites are interpretive units into which landscapes of native vegetation are separated for study, evaluation, and management. An ecological site, as defined for rangelands, is a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation (NRCS 2003).

Ecological site data should not be used by itself to make allotment evaluations, though it is a good reference about the ecological potential of an area if there were no anthropogenic impacts. According to information compiled by the NRCS in 2003, there are currently three main types of rangeland ecological sites within the Wilson Mountain Allotment: R025XY014NV, R025XY027NV, and R025XY009NV. More detail about the ecological sites found at the Wilson Mountain Allotment is found in the following three paragraphs:

R025XY014NV is a loamy soil with 10-12 inches of precipitation annually. This type of ecological site typically occurs on sideslopes and summits of fan piedmonts and hills on all exposures. Slopes range from 4 to 30%, but slope gradients of 4 to 15% are most typical. Average mean annual air temperature is 43 to 50 degrees Fahrenheit (F). The average annual growing season is about 70 to 120 days. Potential native vegetation is dominated by bluebunch wheatgrass (*Pseudoregeneria spicata*), Thurber's needlegrass (*Achnatherum thurberianum*), and big sagebrush (*Artemisia tridentata*). Potential vegetative composition is about 65% grasses, 10% forbs, and 25% shrubs. This ecological site comprises 11% of the Wilson Mountain Allotment.

R025XY027NV is a loamy soil with 12-14 inches of precipitation annually. This type of ecological site typically occurs on inset fans and rolling hills on all exposures. Slopes range from 2 to 30%, but slope gradients of 2 to 15% are most typical. Average mean annual air temperature is 43 to 45 degrees F. The average growing season is about 70 to 100 days. Potential native vegetation is dominated by Idaho fescue (*Festuca idahoensis*) and basin big sagebrush (*Artemisia tridentata*). Potential vegetative composition is about 70% grasses, 10% forbs, and 20% shrubs. This ecological site comprises 37% of the Wilson Mountain Allotment.

R025XY009NV is a rocky soil that occurs on mountain sideslopes on all but northern exposures. Slopes range from 30 to 75%, but slope gradients of 30 to 50% are most typical. Average mean annual air temperature is 43 to 45 degrees F. The average annual growing season is 70 to 100 days. Potential native vegetation is dominated by bluebunch wheatgrass (*Pseudoregeneria spicata*), although big sagebrush (*Artemisia tridentata*) has the potential to dominate the visual aspect. Potential vegetative composition is about 65% grasses, 10% forbs, and 25% shrubs. This ecological site comprises 43% of the Wilson Mountain Allotment.

### 3.3 Precipitation Averages

There are currently no precipitation measurement gages within the Wilson Mountain Allotment. The NRCS does however have several SNOTEL (snowpack and telemetry) weather stations that measure the amount of precipitation an area receives on a yearly basis within close proximity to the allotment. The SNOTEL station that best represents soils, ecological sites, and the elevations of the Wilson Mountain Allotment is the Taylor Canyon SNOTEL station, which is located 26 miles to the south of the allotment. The Taylor Canyon SNOTEL site (site number 811) is located at an elevation of 6200 feet above sea level. The following table shows precipitation totals by water year (October 1 – September 30) from 2000-2011:

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Water Year (Oct 1-Sept 30)	Precipitation Totals (Inches)	Percent of 20 Year Average
2010-2011	17.7	137%
2009-2010	12.9	99%
2008-2009	13.5	104%
2007-2008	10.9	84%
2006-2007	10.3	79%
2005-2006	15.7	121%
2004-2005	15.8	122%
2003-2004	14.6	113%
2002-2003	12.5	96%
2001-2002	10.6	82%
2000-2001	10.7	83%
1999-2000	9.6	74%
1998-1999	11.8	91%
1997-1998	15.3	118%
1996-1997	15.7	121%
1995-1996	14.2	110%
1994-1995	15.0	116%
1993-1994	8.1	62%
1992-1993	15.0	116%
1991-1992	9.4	73%
<b>20 Year Average</b>	<b>13.0</b>	<b>--</b>

Table 2. Precipitation totals from 2001-2011 with a twenty year average.

### 4.0 Current Livestock Grazing Management

The Wilson Mountain Allotment has two pastures, the north and south pastures. Much of the allotment is topographically very steep, which allows for higher grazing utilizations at the lower to mid elevation areas, where slopes are much milder. However, the upper elevation areas do receive light use by livestock. There are no water developments at the allotment; water for livestock grazing is taken from natural springs, streams, and seeps. The following table outlines the current BLM grazing preference for the allotment:

Operator	Number of Cattle	On Date	Off Date	AUMs
Petan	300	4/1	6/4	308

Table 3. Current grazing preference for the Wilson Mountain Allotment.

Years when additional forage is available for livestock consumption, Petan may apply for 166 AUMs of TNR use for the Wilson Mountain Allotment as authorized by the DNA issued in

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2010 (DOI-BLM-NV-N020-2010-0010-DNA). When Petan does apply for TNR, the BLM typically allows additional grazing use beyond the active grazing preference, if utilization objectives (50% on native grasses) are not anticipated to be exceeded for the grazing season.

Operator	Number of Cattle	On Date	Off Date	TNR AUMs
Petan	300	6/5	7/15	166

Table 4. Current TNR authorized for the Wilson Mountain Allotment.

### 4.1 Actual Use by Livestock

Actual use by livestock is reported on a yearly basis by grazing permittees. Actual use is reported to the BLM because permittees may not actually use all of their authorized AUMs. The following table outlines the actual use submitted by Petan for the Wilson Mountain Allotment for the past ten years (2001-2011):

Year	Actual Use AUMs	Actual Use TNR AUMs	Total AUMs
2011	298	147	445
2010	308	142	450
2009	308	137	445
2008	No Data	No Data	No Data
2007	No Data	No Data	No Data
2006	316	No TNR Use	316*
2005	298	166	464
2004	308	No TNR Use	308
2003	308	No TNR Use	308
2002	308	166	474
2001	308	166	474
2000	308	166	474
1999	308	128	436
1998	308	168	476
1997	308	165	473
1996	308	133	441
1995	307	131	439
1994	308	133	441
1993	270	128	398
1992	312	No TNR Use	312*
<b>20 Year Average</b>	<b>305</b>	<b>148</b>	<b>434</b>

Table 6. Actual Use AUMs for the Wilson Mountain Allotment from 1992-2011.

\*Grazing use exceeded what was authorized.

## 5.0 Short-term Upland Vegetation Monitoring

Key Areas are study locations established in an allotment to monitor changes in vegetation, soils, and other resources due to management actions (Map 1). There are currently two key areas (one range and one wildlife) at the Wilson Mountain Allotment. For the purpose of evaluating upland range conditions, the focus will be on range key area WM-01 for the short and long term upland monitoring sections of this document. For more information about plant codes and species used in this assessment, please refer to Appendix 1.

### 5.1 Forage Utilization by Livestock

Livestock utilization studies have been conducted almost yearly at the Wilson Mountain Allotment. According to the Elko Resource Management Plan (BLM RMP 1988) the utilization objectives for the Wilson Mountain Allotment is 50% or less on key native grasses such as bluebunch wheatgrass (*Pseudoregeneria spicata*) and Idaho fescue (*Festuca idahoensis*).

The following table outlines livestock utilization from years 1992 to 2011:

Year	Utilization Before TNR Use		Utilization After TNR Use	
	POSE*			
2011	POSE*	4%	POSE*	4%
	FEID	5%	FEID	5%
2010	PSSP	0%	PSSP	5%
	FEID	0%	FEID	5%
2009	PSSP	1%	PSSP	7%
	FEID	2%	FEID	2%
2008	PSSP	0%	No TNR Use	
	FEID	1%		
2007	PSSP	0%	No Data	
	FEID	4%		
2006	PSSP	3%	No TNR Use	
	FEID	2%		
2005	PSSP	1.5%	PSSP	20%
	FEID	4.5%	FEID	8%
2004	PSSP	33%	No TNR Use	
	FEID	23%		
2003	PSSP	36%	No TNR Use	
	FEID	28%		
2002	PSSP	9%	PSSP	32%
	FEID	8%	FEID	38%
2001	PSSP	5%	No Data	
	FEID	10%		
2000	PSSP	3%	No Data	
	FEID	9%		
1999	PSSP	2%	PSSP	10%
	FEID	5%	FEID	8%
1998	PSSP	4%	PSSP	11%
	FEID	8%	FEID	20%

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1997	PSSP	0%	PSSP	2%
	FEID	4%	FEID	3%
1996	No Data		PSSP	1%
	No Data		FEID	2%
1995	No Data		PSSP	1%
	No Data		FEID	2%
1994	No Data		PSSP	8%
	No Data		FEID	6%
1993	No Data		PSSP	0%
	No Data		FEID	2%
1992	No Data		PSSP	23%
	No Data		FEID	27%
<b>20 Year Average</b>	<b>PSSP</b>	<b>7%</b>	<b>PSSP</b>	<b>10%</b>
	<b>FEID</b>	<b>8%</b>	<b>FEID</b>	<b>10%</b>

Table 5. Utilization of key forage at Range Key Area 01. PSSP denotes Bluebunch Wheatgrass, FEID denotes Idaho Fescue, and POSE denotes Sandberg's bluegrass. \*POSE was used as the key species instead of PSSP, but was not considered in the 20 year average.

### 6.0 Long-term Upland Vegetation Monitoring

Vegetation data was collected by the BLM and Western Range Service (Petan's Consultants) in 1992, 2010, and 2012. It should be noted that the Wilson Mountain received almost average precipitation in 2010 (12.9 inches), but received well below average in 1992 (9.4 inches). 2012 is also on track to be a well below average precipitation year.

#### 6.1 Frequency

Frequency data was collected in 1992 and 2010 at key area WM-01 (Map 1). Frequency data can be used to indicate changes in species abundance and distribution over time. Data collected from both years was used to make a Repeated Measures Analysis of Variance (ANOVA) statistical comparison (0.05% significance level) and, where appropriate, a Tukey test to see if there have been any statistically significant changes in the plant community between the two years. Of the plants that were statistically comparable between 1992 and 2010, 8 plant species significantly decreased, 2 species significantly increased, and 9 species had no significant change. 6 new species were also identified in the 2010 frequency that were not identified in the 1992 frequency. More information about the frequency data can be found in Figure 2 and Appendix 1.

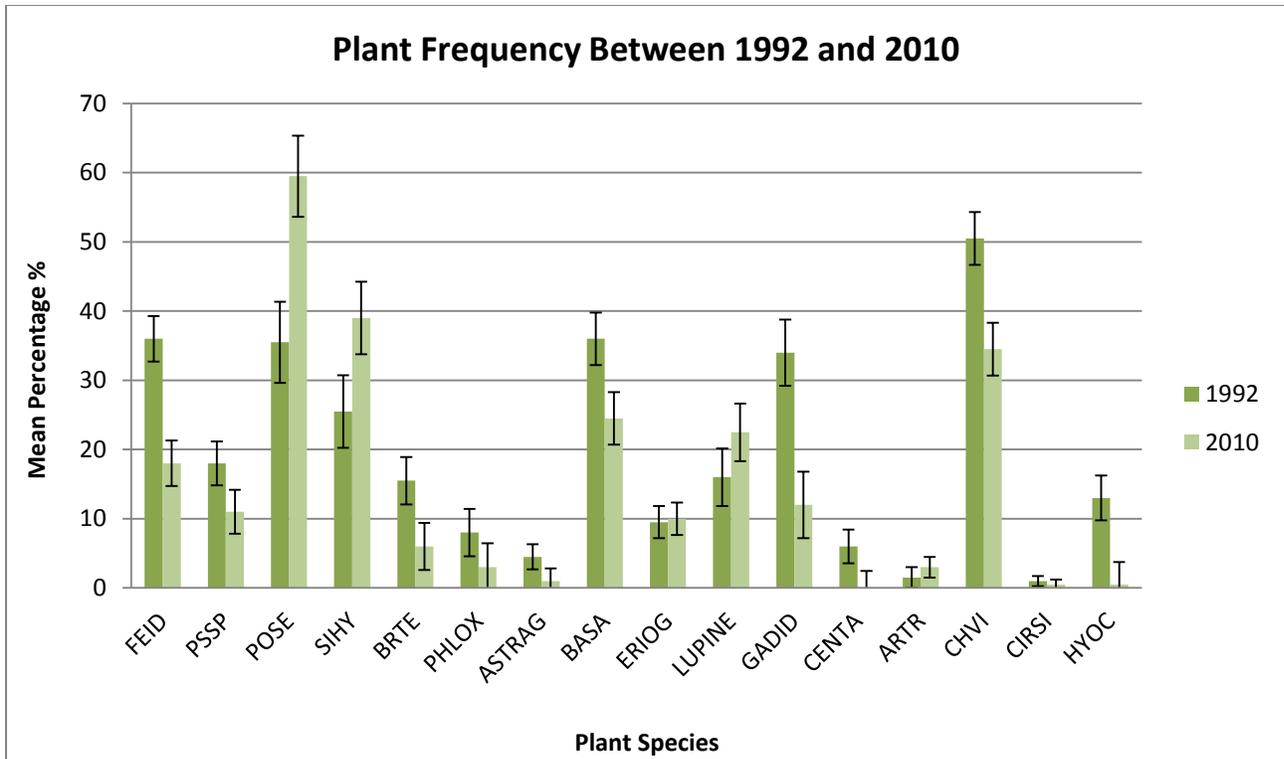


Figure 2. Plant frequency results of 16 statistically comparable species ( $\alpha=0.05$ ) between 1992 and 2010.

### 6.2 Ground Cover

Ground cover data was also collected in 2010 at key area WM-01. The amount of ground cover directly influences hydrologic and ecosystem processes in the allotment by intercepting rainfall and/or slowing runoff, which influences infiltration rates and erosion. Cover data also gives good estimations of phytomass (above ground biomass). Cover data from the allotment shows good basal and canopy vegetative cover, good percentages of litter, as well as good percentages of biological soil crust. More info on cover can be found in Appendix 1. The following figure shows cover data by percentage:

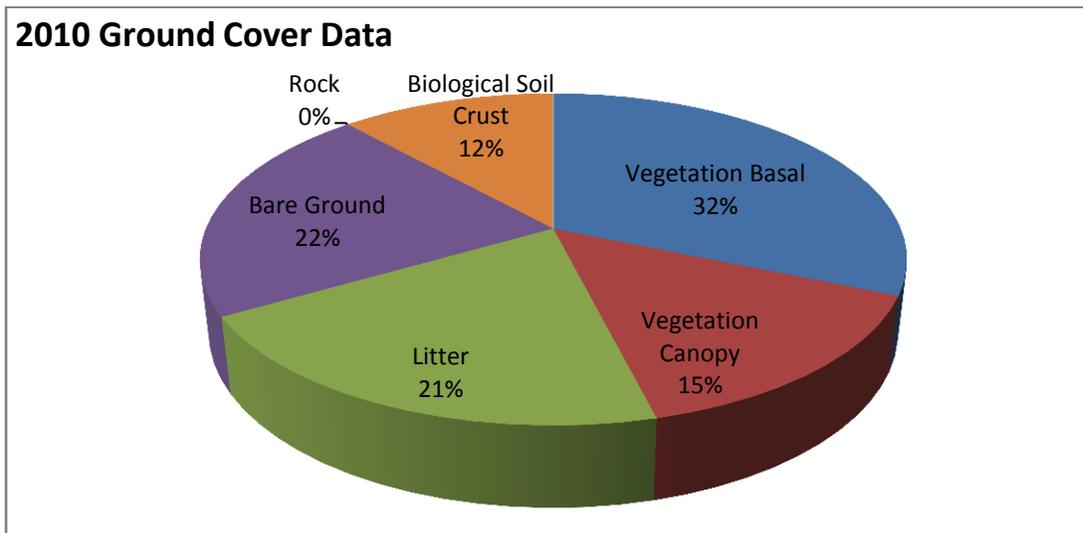


Figure 3. Vegetation cover data summary by percentage.

### 6.3 Production and Percent Composition

Vegetation production data was collected in 1992 and 2012 at key area WM-01 using the weight-estimate method. The production data shows large increases in the number of plants and overall production from 1992 to 2012. 1992 was a well below average precipitation year that was also preceded by several years of below average precipitation. 2012 has also been a below average precipitation year, but the years preceding 2012 were well above average. Precipitation adjustments were made using direction from Forrest et al. 1983. For more information about production data please refer to Appendix 1. Species composition data was also derived from weight-estimate production data. It should be noted, even though it was likely present, sagebrush (*Artemisia tridentata*) data was not recorded during the 1992 production data collection, but was recorded during 2012. The following two figures show percent species composition by weight from 1992 and 2012:

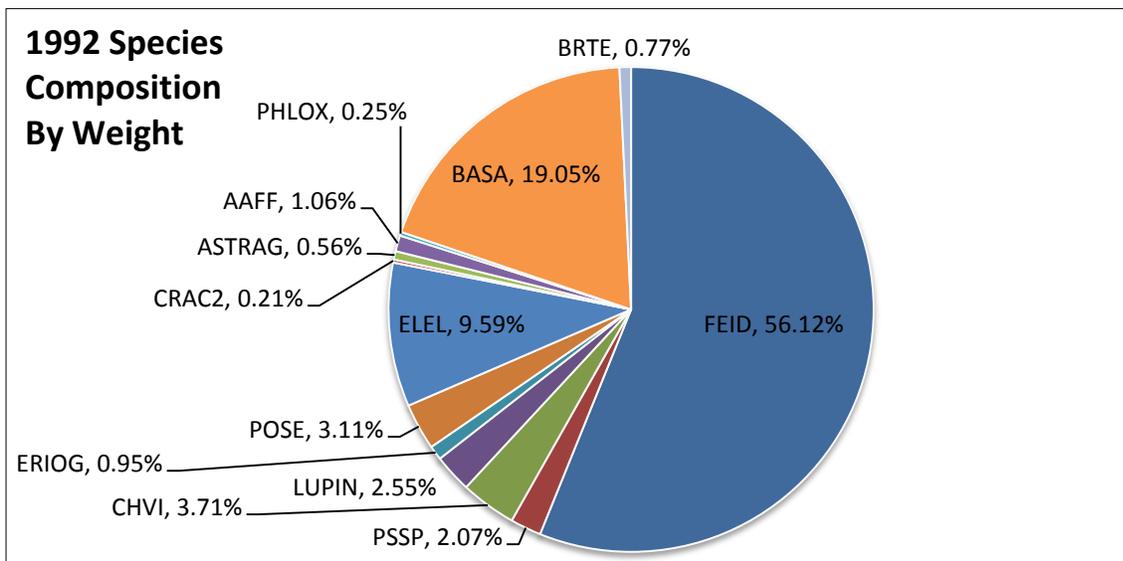


Figure 4. Species composition using 1992 weight-estimate production data.

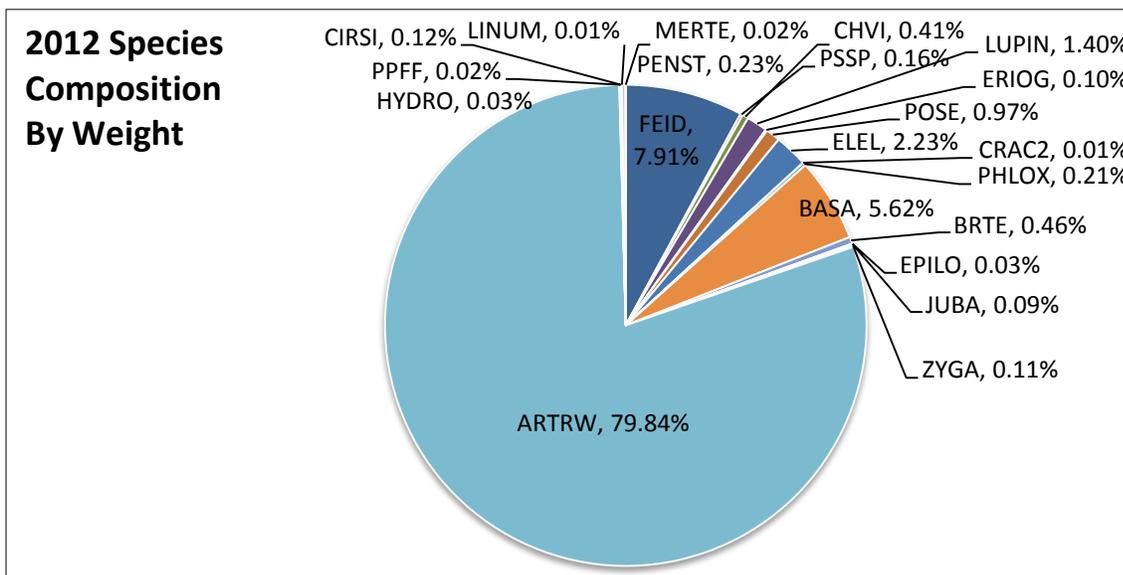


Figure 5. Species composition using 2012 weight-estimate production data.

### **6.4 Soil Stability, Hydrologic Function, and Biotic Integrity**

Soil/site stability is the capacity of an area to limit redistribution and loss of soil resources by the forces of wind and water. Hydrologic function is the capacity of an area to capture, store, and safely release water from rainfall, runoff, and snowmelt, to resist a reduction in this capacity, and to recover this capacity when a reduction does occur (Pellant 2005).

To evaluate the current condition of the soil/site stability and hydrologic function of the uplands on the Wilson Mountain Allotment: data collected by the BLM in collaboration with Western Range Service was evaluated by BLM range specialists by comparing recently collected data to historical data and to data based on the Natural Resource Conservation Service (NRCS) ecological site descriptions (Section 3.2 and Map 2).

To standardize the evaluation process, BLM range specialists used BLM technical reference 1734-6, *Interpreting Indicators of Rangeland Health*, to assess soil/site stability, hydrologic function, and biotic integrity at each individual key area (BLM 2005). BLM range specialists also used knowledge and expertise of rangeland ecology to make assumptions about each key area.

#### **6.4.1 Soil Stability, Hydrologic Function, and Biotic Integrity Analysis**

Data collected at key area WM-01 in 2010 shows excellent plant cover and diversity. The dominant plants grasses were Idaho fescue, Sandberg's bluegrass, and squirreltail. The dominant forbs were arrowleaf balsamroot, lupine, and spreading groundsmoke. The dominant shrubs were basin big sagebrush and rubber rabbitbrush. There are no obvious signs of accelerated soil infiltration or erosion and/or accelerated surface water runoff. Compared to the ecological site description (025XY207NV) this site is fairly consistent for what would be found in a mid-seral vegetation community. However, data collected in 2010 does show small frequencies of undesirable annual grasses and forbs. The soil stability was rated as a slight departure from the ecological reference state. The hydrologic function was also rated as a slight departure from the ecological reference state. Both the soil stability standards and hydrologic function standards are **met** at this key area.

## **7.0 Other Upland Vegetation Information**

### **7.1 2007 Petan-Wilson Wildfire**

In 2007 the Petan-Wilson wildfire burned 648 acres of private land located within the Wilson Mountain Allotment (Map 4). The fire was stopped by the county road that runs through the allotment before public lands were burned. As expected, the fire converted the area from a sagebrush dominated ecosystem to a grass and forb dominated ecosystem. No other wildfires have burned within the allotment in recent years. The allotment was not closed to grazing following the fire. The following picture shows how the burned area of the allotment looks five years after the fire:



Photograph 1. A portion of the allotment that was burned by the 2007 Petan-Wilson fire.

### 7.2 Livestock Carrying Capacity

The Elko District Office commonly calculates an estimated grazing capacity for each year from which utilization and actual use data are available. The calculated yearly grazing capacities are then added together and an average calculated as the grazing capacity. The formula for calculating the yearly grazing capacity is as follows:

$$\frac{\text{Actual Use (AUMs)} \times \text{Utilization Objective}}{\text{Recorded Utilization}} = \text{Grazing Capacity}$$

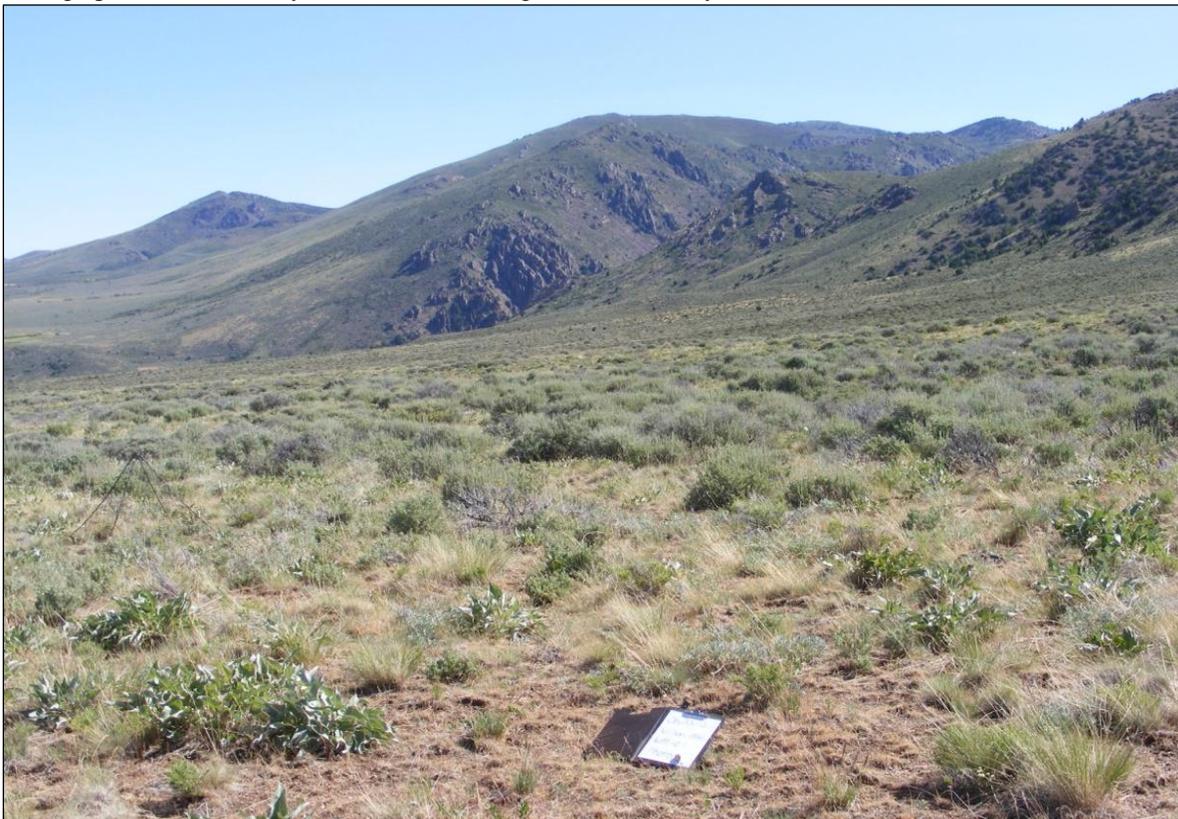
Using the formula above with a 50% utilization objective on native grasses, along with twenty year averages for actual use and recorded utilization, the grazing capacity for the Wilson Mountain Allotment is roughly 2170 AUMs per grazing season. The 2170 AUMs only represents the availability of forage on the upland areas of the allotment and does not necessarily reflect the availability of water resources within the allotment.

### 7.3 Photographs

Photos are a qualitative method to see how an area has changed over time. Photos taken in 1992 and 2012 show visible increases in sagebrush and ground cover. For more pictures of the upland areas of the allotment, please refer to Appendix 1. The following photos were taken in the same location between 1992 and 2012:



Photograph 2. Picture of key area WM-01 looking north, taken July 20, 1992.



Photograph 3. Picture of key area WM-01 looking north, taken June 22, 2012.

### **7.4 Invasive, Non-Native Plant Species**

The BLM defines an invasive weed as, “a non-native plant that disrupts or has the potential to disrupt or alter the natural ecosystem function, composition and diversity of the site it occupies. Its presence deteriorates the health of the site, it makes efficient use of natural resources difficult and it may interfere with management objectives for that site. It is an invasive species that requires a concerted effort (manpower and resources) to remove from its current location, if it can be removed at all” (BLM National List of Invasive Weed Species of Concern 2008). Invasive and non-native plant species may spread from infested areas by people, equipment, livestock, wildlife, and winds. They often exhibit aggressive growth and have the potential to seriously degrade the economic and ecological values of natural resources. Under Executive Order 13112, it is the policy of the land management agencies to prevent introduction of noxious weeds and invasive non-native species and to control their impact (EO 13112, 1999). Nevada Revised Statute 555.005 defines noxious weeds as plants which are likely to be “detrimental or destructive and difficult to control or eradicate.”

#### **7.4.1 Category A Weeds**

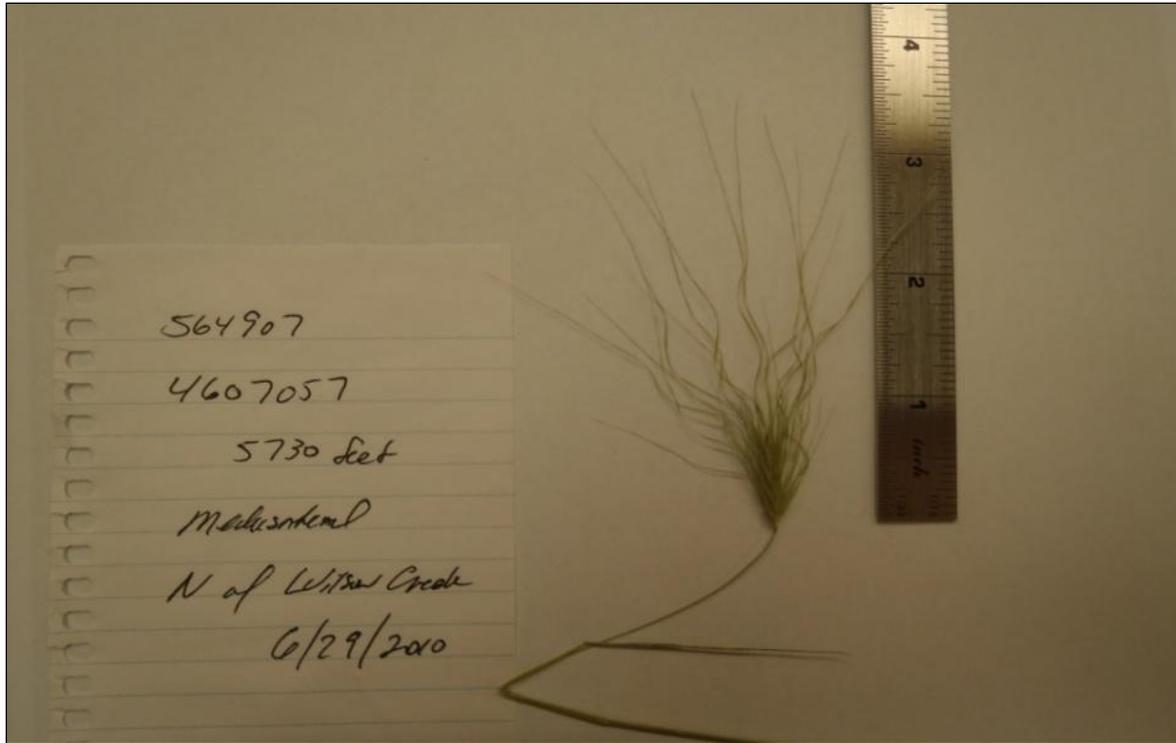
These weeds are not found or are limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; and control is required by the state in all infestations (NDOA 2012).

There is no known Category A Weeds within the Wilson Mountain Allotment.

#### **7.4.2 Category B Weeds**

These weeds are established in scattered populations in some counties of the state; actively excluded where possible; actively eradicated from nursery stock dealer premises; and control is required by the state in areas where populations are not well established or previously unknown to occur (NDOA 2012).

There are two known Category B Weeds within the Wilson Mountain Allotment: Scotch thistle (*Onopordum acanthium*) and medusahead rye (*Taeniatherum caput-medusae*). Both Category B Weed species are found in small populations scattered throughout small areas of the allotment.



Photograph 4. Medusahead Rye grass found at the Wilson Mountain Allotment.

### 7.4.3 Category C Weeds

These weeds are currently established and widespread in many counties of the state with abatement at the discretion of the state quarantine officer (NDOA 2012).

The only Category C Weed species found at the Wilson Mountain Allotment is Canada thistle (*Cirsium arvense*). The amount Canada thistle at the allotment is very limited and is mainly found in a few areas where water is readily available.

### 7.4.4 Non-Categorized Weeds

There are several other plant species found at the Wilson Mountain Allotment that are not categorized by the state of Nevada as “weeds” even though they are non-native, invasive plants. They are however recognized by the BLM as weed species of concern; some of these species include: Cheatgrass (*Bromus tectorum*) and Bull thistle (*Cirsium vulgare*) (BLM 2008).

## 8.0 Riparian-Wetland Areas

The Wilson Mountain Allotment lies within the South Fork of the Owyhee River watershed. Hydrologically, the allotment can be divided into two sub-watersheds: the northern Bull Run sub-watershed and southern Deep Creek sub-watershed. The primary drainage for the northern half is Wilson Creek, an intermittent, Class II (non-fish bearing), western-flowing drainage within the Bull Run sub-watershed. The primary drainage for the southern half of the allotment is the intermittent, Class II (non-fish bearing), western-flowing Sulfur Creek, part of Deep Creek system which also drains into the South Fork of the Owyhee River.

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Riparian-wetland areas are an important component of both standing water (lentic) systems, such as swamps, marshes, and bogs, and running water (lotic) systems, such as rivers, streams, and springs. Riparian areas are the “green zones,” or the links, between aquatic environments and upland, terrestrial ecosystems. Healthy riparian areas provide several important ecological functions. These functions include water storage and aquifer recharge, filtering of chemical and organic wastes, sediment trapping, streambank building and maintenance, flow energy dissipation, and primary biotic (vegetation and animal) production (BLM 2003 Technical Reference 1737-19).

The Wilson Mountain Allotment is reasonably well watered. There are 20 springs identified (Table 6) ranging from wet spots to minimal flow. One spring is identified as improved but the spring has not been maintained, and five of the springs are classified as Public Water Reserve (PWR).

<b>Listing and location coordinates of springs in Wilson Mountain Allotment</b>			
Name	Type	Northing	Easting
	reservoir	565593	4604200
	spring	566309	4604240
	spring*	565825	4604260
R05631	spring (PWR)	565810	4604480
	spring	566260	4604950
	spring	566477	4605530
	spring	566303	4605570
	spring	566556	4605620
	spring	565920	4606000
R05632	spring (PWR)	566636	4606230
	spring	565832	4607190
	spring	565830	4607290
R05033	spring (PWR)	565428	4607450
	spring (improved)	565442	4607520
	spring	565495	4607590
	spring	565256	4607770
	spring	566709	4608230
R08011	spring (PWR)	566149	4609510
	spring	565234	4609850
R05619	spring (PWR)	565858	4610360
	spring	565465	4610400

Table 6. Locations of springs with the Wilson Mountain Allotment

\*Associated with lentic A

### 8.1 Riparian-wetland Functioning Condition Assessments

Proper Functioning Condition (PFC) is a qualitative method of assessing the condition of riparian-wetland areas. PFC is used to describe both the assessment process and a defined, on the-ground condition of a riparian-wetland area. In 2009 BLM specialists collected PFC data at

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10 lentic (non-flowing water) springs within the Wilson Mountain Allotment (Miller 2009, Murphy 2012) with the direction of BLM Technical Reference 1737-16. Please refer to Appendix 2 for pictures of the riparian areas that were studied and Map 4 for locations. The following table shows the PFC assessment for each lentic spring as of September 2009:

PFC Study Number	Spring Legal Description	PFC Status	Comments
PFC 1	N43 E51 26DAD	PFC	No Livestock Use Observed
PFC 2	N43 E51 35ABA	PFC	Exclosure around study area
PFC 3	N43 E51 26DCD2	FARU	Headcut Present Halfway Down Riparian Area
PFC 4	N43 E51 25B	FARD	Widespread Elk and Livestock Hoof Action, Hummocks Present
PFC 5	N43 E51 11AA	PFC	Canada and Bull Thistle Present
PFC 6	N43 E51 11DD	PFC	Minimal Hoof Action, Vigorous Plant Community
PFC 7	N43 E51 23ACA	PFC	2 Water Sources, Bull Thistle and Phragmites Present
PFC 8	N43 E51 23BDA	PFC	At Potential
PFC 9	N43 E51 14DCC	PFC	Springs In Good Condition
PFC 10	N43 E51 23BAA	PFC	Historic Trough Not Affecting Spring, Spring In Good Condition

Table 7. 2009 Proper Function condition status Assessments for the Wilson Mountain Allotment; Proper Functioning Condition (PFC), Functioning At Risk with an Upward Trend (FARU), and Functioning At Risk with a Downward Trend (FARD).

### 8.2 Water Quality Data

Water quality data for the Wilson Mountain Allotment is scarce and sampling occurred during 2012. Wilson Creek located in the Northern half of Wilson Mountain were dry and samples could not be obtained. Samples of two tributaries of Sulfur Creek were sampled and analyzed for pH, temperature, total dissolved solids (TDS), and conductivity.

One PWR spring was tested in 2012, but the remaining springs have not sampled or tested. One reservoir or pond is identified and tested. Two stream channels, tributaries of Sulfur Creek and categorized as Class II (Non-Fish Bearing) are located in the allotment but these drainages are intermittent and flow is inconsistent (Table 8). One drainage was tested in 2012.

Several of the springs are part of lentic riparian areas and wetlands. Samples of some springs were collected and analyzed for pH, temperature, total dissolved solids (TDS), and conductivity.

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Dissolved oxygen was sampled for one spring. Results are presented in Table 8. Results of the analyses show that overall water quality is good; however, flow is inconsistent to be reliable fish habitat.

Water quality data for water sources in Wilson Mountain Allotment								
Sample	Date	UTM		Temperature	pH	TDS	Conductivity	DO
		Easting	Northing	C	su	mg/l	umhos/cm	mg/l
Reservoir	6/12/2012	565588	4604212	23	8.14	240	410	--
South*	6/12/2012	565696	4604157	22.3	7.35	260	440	--
North*	6/12/2012	565729	4606030	10.5	7.9	150	260	9.61
Lentic A**	6/12/2012	565807	4604302	13.7	7.93	260	450	--
R05033	6/12/2012	565428	4607450	14.7	7.6	65	110	8.87
* - Tributaries of Sulfur Creek								
** - Associated with unknown Spring								

Table 8. Water Quality table showing sampling results.

### 9.0 Wildlife, Special Status Species including Threatened and Endangered Species, Migratory Birds and Special Status Plant Species

There are approximately 350 species of vertebrate wildlife that potentially occur in northeastern Nevada. As listed in Appendix 2, the allotment provides habitat for many of these species on a seasonal or yearlong basis in association with sagebrush/grassland steppe. The allotment also provides aspen, juniper, sagebrush, montane shrub (mountain brush), cliffs and talus, dry and wet meadow, and montane riparian habitat types.

Wildlife habitat cover and forage needs are provided by riparian/meadow areas interspersed within ecological sites characterized by the bitterbrush-big sagebrush, low sagebrush, and mountain shrub vegetation types and associated understory forbs and perennial grasses. Isolated Western juniper (*Juniperus occidentalis*) trees at mid elevations, to more scattered stands at upper elevations, provide additional cover and forage. Isolated quaking aspen and common chokecherry stands provide additional cover and forage for wildlife, primarily on drainage areas at mid to upper elevations.

Although riparian areas comprise a relatively small portion of the available habitat within the allotment, they provide a disproportionately higher habitat value for wildlife. As indicated above under 6.1 Riparian-wetland Functioning Condition Assessments Proper Functioning Condition (PFC) data, the vast majority (8 of 10) of areas sampled were in PFC. This, in turn, helps to provide satisfactory riparian/meadow and wetland habitat for wildlife that utilize these areas on a seasonal or yearlong basis.

The table shown in Appendix 3 (see BLM notation) includes a list of wildlife species that have the potential to occur on the allotment on a seasonal or yearlong basis.

### 9.1 Big Game Species

Mule Deer (Resource Management Plan [RMP]-featured species): The allotment provides summer, intermediate (spring and fall) and crucial winter range for mule deer within Nevada Department of Wildlife (NDOW)-delineated Management Area Six, Unit 062. Upper elevation areas primarily provide mule deer summer range habitat (May 1 to October 14) while areas on the mid portion west of Wilson Peak to the northwest side provide crucial winter range (December 15 to March 15). Large groups (e.g. “145 plus”) of deer have been observed by BLM personnel on upper elevation bench areas during the late winter and early spring period. Management emphasis for mule deer habitat has been for crucial winter range on the allotment.

Pronghorn (RMP-featured species): The area provides documented summer range habitat for pronghorn with NDOW Unit 062, including habitat for fawning and fawn-rearing.

Rocky Mountain Elk: Elk numbers have increased over the past several years with groups observed by BLM biologists in the immediate area outside the allotment within NDOW Unit 066 on April 16, 2010. The Spring 2012 “pre-calving” population estimate for the 062,064, and 066-068 unit group is 800 elk compared to 550 in 2011. This unit group area encompasses the entire northwestern portion of Elko County and northern Lander and Eureka counties.

### 9.2 Special Status Species

Actions that may affect Federally-listed species, or species that are proposed for listing as threatened or endangered, are subject to consultation or conference under Section 7 of the Endangered Species Act. Nevada BLM policy is to provide State of Nevada Listed Species and Nevada BLM Sensitive Species with the same level of protection as is provided for candidate species as shown in BLM Manual 6840.06C. Nevada protected animals that meet BLM’s 6840 policy definition are those species of animals occurring on BLM-managed lands in Nevada that are: (1) ‘protected’ under authority of Nevada Administrative Codes 501.100 – 503.104; (2) have been determined to meet BLM’s policy definition of “listing by a State in a category implying potential endangerment or extinction,” and (3) are not already included as a federally listed, proposed, or candidate species (Appendix 3). See Appendix 3 for BLM policy (516 DM 6840) definitions and narratives for special status species.

### 9.3 Federally Listed, Proposed, and Candidate Species (Terrestrial Species)

There are no known terrestrial wildlife species that are listed as threatened or endangered under the Endangered Species Act (Appendix 3) that occur on the area on a seasonal or yearlong basis.

#### 9.3.1 Greater Sage-Grouse (RMP-featured species)

The Greater Sage-Grouse (sage-grouse) is a candidate species as of March 5, 2010 (see paragraph and footnote below and Appendix 3). This species has been classified as an “umbrella species” (Rowland et.al. 2006) where positive or negative impacts to their habitat generally affect the habitat for other sagebrush-obligate species or other species that utilize similar upland and riparian/meadow habitat on a seasonal or yearlong basis.

On March 5, 2010, the U.S. Fish and Wildlife Service announced Proposed Rules\* in the Federal Register for the notice of 12-month findings for petitions to list the greater sage-grouse as a threatened or endangered species. The Fact Sheet for this finding iterated the following, “*After thoroughly analyzing the best scientific and commercial information available, the Fish and*

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*Wildlife Service has concluded that the greater sage-grouse warrants protection under the Endangered Species Act. However, the Service has determined that proposing the species for protection is precluded by the need to take action on other species facing more immediate and severe extinction threats. As a result, the sage-grouse will be added to the list of species that are candidates for Endangered Species Act protection. The Service will review the status of the sage-grouse annually, as we do all candidate species, to determine whether it warrants more immediate attention.*” The Proposed Rules were formally announced in the Federal Register on March 23, 2010 under the following reference: **13910 Federal Register** / Vol. 75, No. 55 / Tuesday, March 23, 2010 / Proposed Rules.

[\* The following is stated for this finding in the Federal Register, “*This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.*”]

The allotment is within the Desert Sage Grouse Population Management Unit (PMU) in Nevada. PMUs are being considered under the Governor’s Nevada Sage Grouse Conservation Strategy by the Northeastern Nevada Stewardship Group as part of sage grouse conservation planning efforts underway for the Elko District. Shrub cover and associated herbaceous plants in the understory is vital as a forage and cover component for sage grouse. Evaluation of habitat values and the possibilities to improve them are considered through this conservation effort. One of the risks identified for the Desert PMU under “Habitat Quality” is “Annual Grass Invasion.” Although this at-the-time (2004) risk was aimed towards cheatgrass control and the negative effects of this annual grass species on habitat, medusahead ryegrass, an invasive annual grass, has established on localized areas on the allotment, and surrounding Duck Valley Reservation, U.S. Forest Service and private lands, and has even higher risks for impacting sage-grouse habitat (See Subsection 5.6 Invasive, Non-Native Plant Species shown above and Determination for Standard 1 shown below).

The majority of the allotment is within “Category 1” (Essential/Irreplaceable Habitat) and “Category 2” (Moderately Important Habitat) sage- grouse habitat as designated by NDOW in March 2012. These categories are equivalent to “Preliminary Priority Habitat” as designated by BLM in March 2012.

The majority of the allotment provides potential breeding habitat including lek areas (traditional locations for courtship display by male grouse, also called “strutting grounds”), lek-associated rest/roost/foraging areas, and nesting habitat. Worthy of note is the observation of sage-grouse egg fragments found near the key area transect on May 28, 2009. However, these fragments could have come from outside the allotment with any nest predation or scavenging of egg fragments by predatory bird species, and transport to the allotment. The area also provides “early” (upland) and “late” (meadow/riparian) brood-rearing/summer and fall/winter habitat for sage-grouse. (Appendix 3, Map 4). The confirmation of a lek site on the allotment is pending. An individual male grouse was documented in courtship display on a potential lek area during an April 11, 2008 aerial survey. However, a follow-up survey on April 16, 2010 did not confirm the location as a lek. Otherwise, there are four known lek locations approximately 2.0 to 3.5 miles from the allotment boundary. In addition, there could be sage-grouse movements into the area from outside the allotment area as individual or groups of grouse seek seasonal use areas.

Areas of riparian/meadow habitat are important for brood-rearing on the allotment, especially during the summer and early fall as forbs desiccate (dry out) on upland areas. Forbs are an essential part of the diet of young sage grouse. Hen sage grouse that nest at lower elevations outside the allotment area could move their broods considerable distances seeking riparian/meadow areas that provide succulent forbs at higher elevations; this potentially includes areas on the allotment.

### **9.4 BLM Sensitive Species and State of Nevada-Special Status Species (Terrestrial Species)**

Appendix 3 lists and includes narratives for the BLM and State of Nevada wildlife species of concern that either have been documented on the allotment or have the potential to utilize suitable habitat on the allotment. The exceptions for narratives are for pygmy rabbits and golden eagles shown below as “focus species.” The lists are based on information received from the Nevada BLM State Office on October 21, 2011, and from NDOW.

### **9.5 Sensitive Mammals**

#### ***Pygmy Rabbits***

Pygmy rabbits are a BLM Sensitive Species that were petitioned for listing as threatened or endangered under the Endangered Species Act. On May 20, 2005, the U.S. Fish and Wildlife Service (USFWS) announced a 90-Day finding in the Federal Register indicating that, “... the petition does not provide substantial information indicating that listing the pygmy rabbit may be warranted.” On September 29, 2010, the USFWS informed the public about a press release regarding a second petition with the following excerpt, “*The U.S. Fish and Wildlife Service (Service) will announce tomorrow, it has completed a status review, or 12-month finding, of the pygmy rabbit (Brachylagus idahoensis) and concluded it does not warrant protection under the Endangered Species Act (ESA) in California, Nevada, Oregon, Idaho, Utah, Wyoming, and Montana. The status review was undertaken after the Service determined that a petition to list the pygmy rabbit under the ESA presented substantial information in January 2008, and that listing of the species may be warranted.*” The 2005 and 2010 findings do not downplay the need to conserve, enhance or protect pygmy rabbit habitat.

The area provides pygmy rabbit habitat. An apparent active burrow was located at the base of a basin big sagebrush plant on the edge of a public lands meadow area during a cursory search on May 16, 2012 (Photo 5). Formal surveys would be needed to confirm the extent of habitat use on the allotment. Pygmy rabbits are found in various vegetation types that include big sagebrush that are suitable for creating their burrow system. Observations in Nevada have been made over broad areas including those characterized by the mountain, basin and Wyoming big sagebrush vegetation types and the big sagebrush-bitterbrush vegetation type. Relative to the area, the highest likelihood of occurrence would be on sites that support “pockets” of big sagebrush adjoining riparian/meadow or ephemeral drainage areas (Photo 6). The majority of the riparian/meadow areas are in PFC as of 2009. Coupled with the “Good” habitat condition rating for mule deer and satisfactory seasonal habitat conditions for sage-grouse as an “umbrella species”, potential pygmy rabbit habitat is also likely to be in “good” condition on the allotment.



Photograph 5. Wilson Mountain Allotment, Apparent Active Pygmy Rabbit Burrow. May 16, 2012.



Photograph 6. Wilson Mountain Allotment, Apparent Pygmy Rabbit Habitat Location on Big Sagebrush-Meadow Edge. May 16, 2012

### 9.6 Nevada BLM Sensitive Birds and State of Nevada-Special Status Species

The habitat conditions for the following raptor, and additional raptors listed in Appendix 3, and their prey species are likely to be in “good” condition considering mule deer and sage-grouse habitat conditions and PFC ratings mentioned above.

**Golden Eagle** -This species is protected under the 2007 Bald and Golden Eagle Protection Act. This species has been documented near the south side of the allotment by NDOW personnel with other documentations, including nest sites within less than a mile to five miles of the allotment boundary. Other areas on the allotment and other mountainous terrain areas immediately surrounding the allotment, provide nesting and foraging habitat where prey species are primarily small mammals.

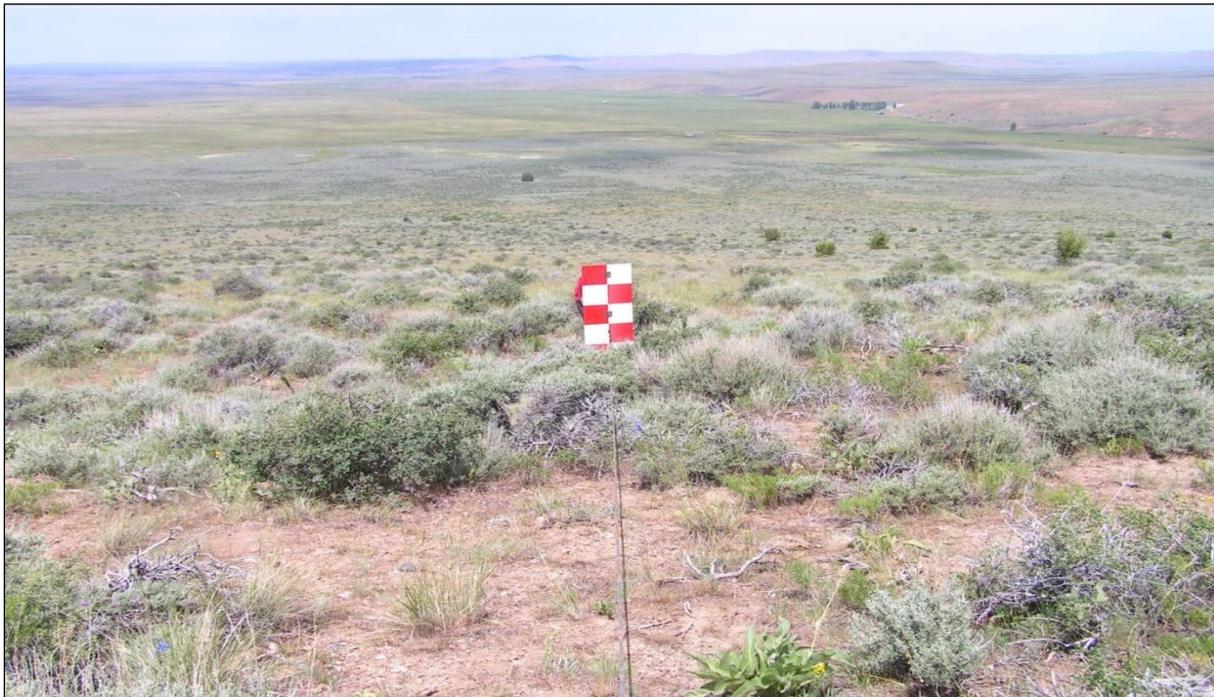
### 9.7 Migratory Birds

On January 11, 2001, President Clinton signed the Migratory Bird Executive Order 13186. It directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act and to conserve migratory birds. Migratory bird species that may occur in the habitat types on the allotment are listed in Appendix 3. This listing is from the 1999 Nevada Partners in Flight Bird Conservation Plan. The Nevada Partners in Flight Bird Conservation Plan identifies bird species associated with each of these ecotypes (Appendix 2).

### 9.8 Special Status Plant Species

There are no known threatened, endangered, candidates or BLM Sensitive Plant Species on the allotment. Grimes vetchling (*Lathyrus grimesii*), a State of Nevada Special Status Species, has been identified on public lands on the adjoining Lime Mountain Allotment.

## 10.0 Wildlife Habitat Condition Monitoring Summary



Photograph 7. Wilson Mountain Allotment, Key Area CDW-WM-01-91. June 29, 2010

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Wildlife Key Area CDW-WM-01-91 is characterized by the mountain brush vegetation type on the North Pasture. Antelope bitterbrush (bitterbrush, Plant Code “PUTR2”) and mountain big sagebrush are the dominant shrubs. The key area was originally established to monitor crucial winter range habitat conditions for mule deer, however data collected at the key area can be used to indicate habitat condition for a number of key species including sage-grouse. Wildlife monitoring data for habitat condition rating, including line intercept, vertical cover, and browse form and age class was collected at this key area in 1991, 2002 and 2010. In addition, key browse (antelope bitterbrush) age and form class, and utilization has been collected from 1991 to 2012 (Photo 9). The results are summarized in Appendix 3. Disturbance/interference factors (fencing hazards) were documented in the early 1990s, 2002, 2007, 2010 and 2012. Fence modifications were completed on spans of the north and south allotment boundary fences on public lands in the early 1990s to help facilitate big game movements. However, additional modifications are needed, as well as the removal of entangled shrubs, to further allow for facilitation of big game and other wildlife movements.



Photograph 8. Wilson Mountain Allotment, Key Area CDW-WM-01-91. Bitterbrush (PUTR2) Age and Form Class Monitoring, June 29, 2010



Photograph 9. Wilson Mountain Allotment, Key Area CDW-WM-01-91. Bitterbrush (PUTR2) Age and Form Class Monitoring, May 16, 2012.

Vegetative Composition, Diversity and Cover - Line intercept studies provide a method for collecting vegetative cover (canopy and basal cover) and shrub, grass and forb species composition data (Photo 7). Relative to monitoring the availability of lateral nesting cover for sage-grouse, the “droop height” of “tall genera grasses” was monitored in 2002. To monitor the same cover, the droop height and herbaceous perennial native plant canopy cover was monitored in 2010.

Shrub Height, Foliar Cover and Condition - Vertical cover data provides a way to evaluate changes in vegetation structure and helps determine whether cover is adequate for wildlife species (Photo 7). Shrub height measurements were also recorded in 2010. Browse form and age class data are used to determine whether overuse is occurring on important browse species and whether age class diversity is providing for the needs of the wildlife species and is adequate to maintain the health of the vegetative community.

These types of information shown above can be used, along with additional monitoring data such as herbaceous utilization and ecological status condition to make determinations regarding the quality of habitat the area is providing for wildlife species, including sage-grouse and mule deer. Scientific references (Gregg 1994, Winward 1991 and Connelly et. al, 2000) were also used to help make any determinations on sage grouse habitat quality.

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### Sage-Grouse

Habitat management for sage-grouse was emphasized in the 1987 Elko Resource Management Plan-Rangeland Program Summary. Sage-grouse are considered an “umbrella species” where maintenance or improvement of their habitat also helps to maintain or improve the habitat of many other wildlife species that are dependent (“sagebrush obligates” such as pygmy rabbits) on sagebrush habitat or otherwise utilize these areas on a yearlong or seasonal basis.

Specific objectives for sage-grouse habitat in terms of vegetative composition were not established in the Elko Resource Management Plan; however, the Bureau of Land management in Nevada has established interim sage-grouse management guidelines (2000 Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada). These guidelines were based on Western Association of Fish and Wildlife Agencies (WAFWA) draft guidelines and Oregon Bureau of Land Management sage-grouse management guidelines. These guidelines outline optimum (“good”) habitat conditions based on WAFWA habitat descriptions by life cycle for sage-grouse and other pertinent research, and provide a basis for evaluating habitat conditions, taking into account actual site potential. The BLM signed a Memorandum of Understanding with other Federal agencies and WAFWA to consider these guidelines in the land use planning process. Table 10 provides a summary of characteristics of sagebrush rangeland needed to help provide productive sage-grouse habitat compared to characteristics monitored on the allotment in 2010.

**Table 9. Characteristics of sagebrush rangeland needed for productive sage grouse habitat (arid site<sup>1</sup>) - Arid Sites Excerpt (Connelly, et al. 2000) in Bold.** Wilson Mountain Key Area Key Area CDW-WM-01-91 Data shown below the Blue-Shaded Row.

Vegetation Type	Breeding Habitat		Brood-rearing Habitat		Winter Habitat <sup>3</sup>	
	Height (cm)	Canopy (%) <sup>2</sup>	Height (cm) <sup>1</sup>	Canopy (%) <sup>2</sup>	Height (cm) <sup>1</sup>	Canopy (%) <sup>2</sup>
<b>WAFWA-Sagebrush</b>	<b>30-80</b>	<b>15-25</b>	<b>40-80</b>	<b>10-25</b>	<b>25-35</b>	<b>10-30</b>
<b>WAFWA-Grass-forb</b>	<b>&gt;18<sup>2</sup></b>	<b>≥15</b>	<b>Variable</b>	<b>&gt;15</b>	<b>N/A</b>	<b>N/A</b>
<b>2010 Wilson Mtn – Sagebrush</b>	<b>46.7 (18.2 in.)</b>	<b>33.8%<sup>4</sup></b>	<b>46.7</b>	<b>33.8%<sup>4</sup></b>	<b>46.7</b>	<b>33.8%</b>
<b>2010 Wilson Mtn-Grass-Forb</b>	<b>21.3 (8.3 in.)</b>	<b>27%</b>	<b>21.3</b>	<b>27%</b>	<b>-</b>	<b>-</b>

<sup>1</sup>Mesic and arid sites should be defined on a local basis; annual precipitation, herbaceous understory, and soils should be considered (Tisdale and Hironaka 1981, Hironaka et al. 1983).

<sup>2</sup>Grasses and forbs measured as “droop height”; the highest naturally growing portion of the plant.

<sup>3</sup>Values for height and canopy coverage are for shrubs exposed above snow.

<sup>4</sup>Mountain shrub vegetation type – see narrative

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Relative to Footnote 1 in the table above and the mountain brush vegetation type (an arid site) monitored on the key area transect on the allotment, the guidelines go on to say, “Because of gaps in our knowledge and regional variation in habitat characteristics (Tisdale and Hironaka 1981), the judgment of local biologists and quantitative data from population and habitat monitoring are necessary to implement the guidelines correctly.” With this consideration, the following studies would help to provide information regarding attainment of satisfactory sage-grouse nesting cover specific to the key area monitoring location on the allotment:

**Sage Grouse Nesting Cover Studies-** Information obtained from a 1994 sage grouse nesting habitat study in Oregon (Gregg et al) indicated that the following factors would help improve sage grouse nesting success:

- 1) an average of 8-12% shrub canopy (live foliar) cover within the Wyoming big sagebrush vegetation type and 15-20% cover within the basin or mountain big sagebrush vegetation types that averages 16-32 inches in height, and,
- 2) an average of 18% aerial (canopy) cover of tall genera grasses with height greater than 7 inches.

**Sagebrush Grasslands Studies -** Winward (1991) found that collective shrub foliar cover of 8-12% for the Wyoming big sagebrush vegetation type and 15-20% for the basin or mountain big sagebrush vegetation types resulted in little competition between sagebrush and herbaceous species.

Considering the potential umbrella-type foliar cover provided by bitterbrush, serviceberry and snowberry on areas characterized by the mountain shrub vegetation type, shrub foliar values around 20-30% would likely have the same results. These ranges of shrub foliar cover values specific to vegetation types with key browse age and form class in satisfactory condition, coupled with understory perennial herbaceous vegetation that reflects upper mid-seral to late seral ecological status, would help to provide suitable wildlife habitat on native sagebrush rangelands with satisfactory wildlife forage and cover diversity.

Monitoring data collected in 2010 indicate that sage-grouse Breeding Habitat (nesting), Brood-Rearing Habitat and Winter Habitat quality is within appropriate WAFWA guidelines when considering the mountain shrub vegetation type shrub height and umbrella-type shrub foliar cover, and perennial native species “grass-forb” height of to support height recommendations and foliar cover values for nesting and brooding. The percentages shown in Table 9 indicate that sufficient vegetative cover is available to promote successful nesting during critical periods for sage grouse and migratory birds. Only isolated cheatgrass was noted on this site with less than 1/10 of 1% composition recorded in 2010.

Sage Grouse Early (Upland) Brood-Rearing Habitat – This habitat is generally in the vicinity of nesting habitat on upland areas with sagebrush as the primary shrub cover. Monitoring data collected in June of 2010 efforts have indicated that the diversity of species, including forbs needed for dietary intake, is satisfactory in comparison to site potential. Herbaceous canopy

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cover was 27% in 2010 which is within recommended ranges for productive brood-rearing habitat.

Sage Grouse Summer Habitat and Late (Riparian/Meadow) Brood-Rearing Habitat – This habitat is primarily associated with riparian/meadow areas. Lentic riparian habitat (seeps, springs) were stable and well-vegetated with eight of ten sites rated as being in PFC (See Subsection 6.1 above). These conditions help to provide satisfactory brood-rearing habitat as well as allow the areas to expand and increase in size.

Sage Grouse Winter Habitat - The shrub foliar cover was 33.8% in 2010; this included 17.2% sagebrush cover (average shrub height 15.7 in.) with collective shrub height at 18.2 inches. Although this 33.8% cover was higher than WAFWA's 10-30% guidelines, umbrella-type cover provided by bitterbrush, serviceberry and snowberry, coupled with big sagebrush cover, help to provide satisfactory winter habitat for sage grouse, although, no measurements were recorded above variable snow cover.

### **Mule Deer**

Data collected at the key area was analyzed for mule deer habitat using the BLM's WILDIVE program, which calculates a vegetative diversity index based on percent composition and preference for species present at the key area. This information is used along with other factors such as water distribution, vegetative production, percent cover, vertical cover, disturbance or interference factors and browse condition to calculate a habitat condition rating for mule deer.

Livestock control fencing as disturbance or interference factors were also considered. Modifications are needed on the allotment. The facilitation of deer, pronghorn and elk movements under or over livestock control fencing was not considered at the time that fences on the allotment were constructed. Private land fencing, including spans with five and six strands of wire with bottom strand as low as nine inches above the ground and top strand to 50.5 inches high, is present and was apparently incorporated into the creation of the grazing allotment during the range adjudication process. Fence hazards on big game and sage-grouse seasonal use habitat areas are a concern where modifications to lower heights and other measures to help make the fence outline more visible, would help to minimize the potential for entanglement with fence wires. Modification of potential fence hazards to BLM specifications have been completed on public lands on the allotment. Additional work on public lands, and any coordinated effort on private lands, is needed as part of long-term efforts on the Elko District.

A "Fair" Mule Deer Habitat Condition rating was calculated for monitoring completed in 1991.

Although plant diversity was limited, habitat for mule deer crucial winter use (12/15 to 3/15) was rated as being in "Good" condition in 2002 and 2010 with a satisfactory age and form class monitored for bitterbrush, the key browse species. Satisfactory age and form class was also monitored at the key area on May 16, 2012 (Photo 9). Please refer to Appendix 3 for detailed monitoring information and habitat condition ratings for the allotment.

[Note: A second key transect area (WM-WM-02-91) was established in 1991, with mule deer summer habitat condition rating data ("Good" Condition) also collected in 1991. It is within the

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## Wilson Mountain Allotment Standards and Guidelines Assessment

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same North Pasture at a higher elevation, within the same vegetation type and about 1.25 miles from Key Area CDW-WM-01-91. Data from Key Area CDW-WM-01-91 represents the North Pasture area and a second key area is not needed on the same North Pasture.]

South Pasture - There is not an established key area study transect for mule deer habitat on the South Pasture. Key Browse Age and Form Class monitoring was completed for bitterbrush on a representative area characterized by the big sagebrush-bitterbrush vegetation type on public lands on May 16, 2012. Age and form class was satisfactory (Photo 10).



Photograph 10. Wilson Mountain Allotment, Bitterbrush (PUTR2) Age and Form Class Monitoring on South Pasture. May 16, 2012.

### 11.0 Cultural Resources

Archaeologists have inventoried 66 acres of the allotment as part of two earlier projects (BLM 1-1069 and 1-1733), and documented two archaeological sites (26EK5174, 26EK5175). Both sites are small (<750 sq.m.) scatters with fewer than 25 chipped-stone artifacts. Although their eligibility for nomination to the National Register of Historic Places (NRHP) remains unevaluated, given the limited size and artifacts, the two sites are unlikely to qualify for the NRHP.

Prior inventories in the Owyhee Desert to the north and west of the Allotment have demonstrated that historic properties (i.e., cultural resources eligible for the NRHP) are concentrated in close proximity to natural water sources, such as springs, streams and playas. With approval and

review by the Nevada State Historic Preservation Office (SHPO), BLM continues to utilize, refine and evaluate this predictive model for historic properties. The Wilson Mountain Allotment is located just outside and to the east of the boundaries for the area included within this model, but the model may still have applicability to this allotment.

In order to evaluate the distribution and likelihood for historic properties within the allotment, Two BLM archaeologists visited the two flowing springs located on public land (in Section 11 and 14 of T43N R51E) on June 11, 2012. The archaeologists completed a reconnaissance by walking from the county road to and between the two springs, but did not locate any additional cultural resources.

The absence of historic properties in the reconnaissance and earlier inventories, even when BLM examined the most likely places (springs) to contain cultural resources, indicates that the overall density of cultural resources is low and that few, if any, historic properties exist on public lands within the allotment. For this reason, grazing related impacts to historic properties are minimal within the Wilson Mountain Allotment.

### 12.0 Final Determinations

This section makes determinations regarding:

- A. Progress towards or attainment of the standards for rangeland health,
- B. Whether livestock management is in conformance with the guidelines, and
- C. Whether existing grazing management or levels of grazing use are significant factors in failing to achieve the standards or conform to the guidelines.

**Standard 1. Upland Sites:** Upland sites exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.

**After reviewing all information, it has been determined that this standard for rangeland health is being met and livestock grazing management is considered to be in conformance with set guidelines.**

**Rationale:** The Wilson Mountain Allotment is in overall good ecological condition. Hydrologic function, energy flow, and nutrient cycling on the upland areas of the allotment appear to be well balanced with no obvious impediments. Data collected at key area WM-01 in 2010 and 2012 shows a vigorous plant community that is dominated by native shrubs, grasses, and forbs. The amount of cover and plant litter at the allotment is adequate to slow water infiltration and run off and provides good soil stability and reduced erosion. The amount of biological soil crust is also sufficient to slow water infiltration and help reduce erosion. Data collected in 1992 compared to data collected in 2010 and 2012 shows more plant species biodiversity and unwanted plant species decline (BRTE and CENTA). This is most likely due to several factors including pathogens, climatic fluctuations, anthropogenic activities, and other natural fluctuations based on resource availability within the plant communities (West et al. 2006, Holechek et al. 2004). The establishment of more long term monitoring key areas is needed within the allotment to better evaluate the other types of ecological sites and plant communities that are not found at key area WM-01.

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## Wilson Mountain Allotment Standards and Guidelines Assessment

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Within the allotment there are small pockets of undesirable plant species scattered throughout the lower to mid elevation areas. Even though data collection didn't pick up any medusahead rye grass, there is a known established pocket in the middle of the allotment on public and private lands. Medusahead has several weapons in its invasive arsenal. These include rapid fall germination and root growth throughout the winter, prolific seed production, and accumulation of litter that is high in silica which makes decomposition of the grass extremely slow. Essentially useless as forage, medusahead has been estimated to reduce the carrying capacity of infested rangelands by 75 percent for domestic livestock (USU 2012). The sharp awns of medusahead have also been known to cause injury to livestock by getting caught in their eyes, nose, or mouths (USU 2012). The Duckwater Shoshone tribal lands to the north of the allotment are infested with medusahead which could potentially have negative impacts on all of the surround public and private lands. Intensive restoration efforts are needed by the BLM and Petan to control the medusahead in the allotment before it increases and crosses an ecological threshold, which would make it extremely difficult to eradicate. Fire, mowing, herbicides, disking, and intensive early grazing, or a combination of methods can reduce medusahead infestations. After treatment, re-vegetation with a highly competitive plant species is vital to prevent medusahead from regaining dominance (Davies 2010). A slow hot fire after medusahead seeds ripen, but before they drop, can reduce medusahead up to 90 percent the following year (USU 2012).

**Standard 2. Riparian and Wetland Sites:** Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

**After reviewing all information, it has been determined that this standard for rangeland health is being met and livestock grazing management is considered to be in conformance with the set guidelines.**

**Rationale:** Wetland/riparian area data was collected in 2009 and 2012. The 2009 PFC data shows that all, except for two, of the sites that were visited were considered to be in proper functioning condition. One of the two sites that were not in functioning condition, was considered to be in an upward trend, and should be revisited to determine the current condition of the site. The other site that was not functioning was influenced by livestock and elk hoof action, as well as extremely steep topography. This site should also be revisited to determine if any improvements have been made in the condition of the area.

Water quality data was also collected by BLM specialists in 2012 to determine if the riparian/wetland areas are meeting state water quality standards. All of the springs that were sampled show no irregularities and fall within the standards that have been established by the state of Nevada.

From the data that has been collected, it is the determination of the BLM that livestock grazing is not the direct causal factor for any adverse effects on the wetland/riparian areas located within the allotment.

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## Wilson Mountain Allotment Standards and Guidelines Assessment

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**Standard 3. Habitat:** Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species in order to maintain ecological processes. Habitat conditions meet life cycle requirements of threatened and endangered species.

**After reviewing all monitoring information, it has been determined that this standard for rangeland health is being met and current livestock grazing management is considered to be in conformance with set guidelines.**

**Rationale:** Crucial mule deer winter range habitat has been rated to be in “Good” condition as indicated by monitoring completed in 2002 and 2010. Bitterbrush has been maintained in satisfactory age and form class. This helps to allow for maintenance of this shrub, which is an important species needed for forage and cover diversity for mule deer and other game and nongame species, and ongoing ecological site dynamics. (Note: Fence modifications are needed to facilitate big game and other wildlife movements.)

Monitoring data collected in 2010 indicate that sage-grouse Breeding Habitat (nesting), Brood-Rearing Habitat and Winter Habitat quality is within appropriate WAFWA guidelines when considering the mountain shrub vegetation type shrub height and umbrella-type shrub foliar cover, and perennial native species “grass-forb” height to support height recommendations and foliar cover values for nesting and brooding. Eight of ten monitoring locations on riparian/meadow areas were rated as being in PFC with an additional area rated as being in an upward trend. Sage-grouse late (riparian/meadow) habitat has been maintained with these PFC ratings.

Vegetative monitoring indicates that wildlife habitat values are being maintained for wildlife species including those designated as Special Status Species and Migratory Birds when considering sage-grouse as an “umbrella” species.

Habitat conditions for the prey species of golden eagles, burrowing owls and other raptors designated as BLM and State Special Status Species would also be expected to be maintained.

**Standard 4. Cultural Resources:** Land use plans will recognize cultural resources within the context of multiple use.

**After reviewing all monitoring information, it has been determined that this standard for rangeland health is being met and current livestock grazing management is considered to be in conformance with set guidelines.**

**Rationale:** BLM Archeologists examined the most likely places within the allotment to contain cultural resources, indicating that the overall density of cultural resources is low and that few, if any, historic properties exist on public lands within the allotment. For this reason, grazing related impacts to historic properties are minimal within the Wilson Mountain Allotment. Rangeland management plans, including term grazing permit renewals will consider listings of known sites that are National Historic Register eligible or considered to be of cultural significance as well as new eligible sites as they become known. Based on the evaluation of existing information pertaining to the allotment, cultural resources are being recognized within the context of multiple use management in the Wilson Mountain Allotment.

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### Appendix I - Long-term Upland Vegetation Monitoring Data

#### A. Frequency Data - Key Area WM-01

Plant Code	1992			2010			Significant Changes/Comments
	Frame Sizes			Frame Sizes			
	3"	10"	30"	3"	10"	30"	
FEID	36.0%	0%	0%	18.0%	40.5%	29.5%	Decrease '92-'10
PSSP	0%	0%	18.0%	0.5%	1.0%	11.0%	Decrease '92-'10
POSE	35.5%	0%	0%	59.5%	37.5%	2.5%	Increase '92-'10
SIHY	0%	0%	25.5%	2.5%	5.0%	39.0%	Increase '92-'10
BRTE	0%	0%	14.5%	0.5%	1.5%	6.0%	Decrease '92-'10
LECI (ELCI)	0%	0%	0%	0%	0%	0.5%	New '10
FECA4 (FESC)	0%	0%	1%	0%	0%	0%	No Significant Change (NS)
PHLOX	0%	0%	8.0%	0%	1.5%	3.0%	NS
ASTRAG	0%	0%	4.5%	0%	0%	1.0%	NS
BASA	0%	0%	36.0%	1.0%	8.5%	24.5%	Decrease '92-'10
ERIOG	0%	0%	9.5%	0%	2.5%	10.0%	NS
LUPINE	0%	0%	16.0%	1.0%	5.0%	22.5%	NS
GADID	0%	0%	35.0%	0%	0%	0%	Decrease '92-'10
CIRSI	0%	0%	1%	0%	0%	0.5%	NS
DICA18	0%	0%	0%	0%	1.5%	11.0%	New '10
ZIPA2	0%	0%	0%	0%	0.5%	3.5%	New '10
LIRU4	0%	0%	0%	0%	1.0%	6.5%	New '10
ANME2	0%	0%	0%	0%	0.5%	6.5%	New '10
HYOC	0%	0%	13.0%	0%	0.0%	1.0%	Decrease '92-'10
ALAC4	0%	0%	0%	0.5%	1.5%	7.5%	New '10
CENTA	0%	0%	7.0%	0%	0%	0%	Decrease '92-'10
AAFF	0%	0%	2.0%	0%	0%	0.5%	NS
ARTRW8	0%	0%	1.5%	0%	0.5%	3.0%	NS
ERTE18 (CHVI)	0%	0%	50.5%	0%	7.0%	34.5%	Decrease '92-'10
ERNA10 (CHNA)	0%	0%	1%	0%	0%	0%	NS

#### B. Cover Data - Key Area WM-01

2010 Cover Data Summary						
Key Area	Basal Cover	Canopy Cover	Litter	Bare Ground	Rock	Biological Crust
WM-01	32%	15%	21%	22%	0%	12%

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### C. Vegetation Weight-Estimate Production and Species Composition Data

07/21/1992								
025XY027NV; Loamy 12-14" P.Z.; ARTRT*/FEID								
Precipitation Adjustment	Number of Plots	(x)						
0.67	10	10						
Plant/ Phenological Stage	Estimate Adjustment Factor	Green Weight	Percent Utilization	Adjusted Green Weight	Dry Weight and Phenological Factor	Total Dry Weight	Pounds per Acre	Percent Composition
FEID/7	0.84	154	19	129.36	1.4602	233.1993481	348.0587286	56.51%
AGSP/7	1.4	5	15	7	1.056	8.696470588	12.97980685	2.11%
CHVI8/3	0.4	50	0	20	0.7812	15.624	23.31940299	3.79%
LUPIN/7	1.2	7	0	8.4	1.2784	10.73856	16.02770149	2.60%
ERIOG/5	2.67	3	0	8.01	0.5	4.005	5.97761194	0.97%
POSE/7	0.4	30	0	12	1.09	13.08	19.52238806	3.17%
SIHY/7	1.3	14	14	18.2	1.6632	35.19795349	52.53425894	8.53%
CRAC2/7	1	0.5	0	0.5	1.7568	0.8784	1.311044776	0.21%
ASTRA/6	1.67	3	0	5.01	0.47	2.3547	3.514477612	0.57%
AAFP/7	1	3.5	0	3.5	1.274	4.459	6.655223881	1.08%
PHLOX/7	1	0.5	0	0.5	2.09	1.045	1.559701493	0.25%
BASA/7	3.8	39	0	148.2	0.5408	80.14656	119.6217313	19.42%
BRTE/7	0.5	2	0	1	3.25	3.25	4.850746269	0.79%
<b>Total</b>							<b>615.9328242</b>	

06/18/2012								
025XY027NV; Loamy 12-14" P.Z.; ARTRT*/FEID								
Precipitation Adjustment	Number of Plots	(x)						
0.59	15	10						
Plant/ Phenological Stage	Estimate Adjustment Factor	Green Weight	Percent Utilization	Adjusted Green Weight	Dry Weight and Phenological Factor	Total Dry Weight	Pounds per Acre	Percent Composition
BRTE/5	9	5	0	45	0.49	22.05	24.91525424	0.47%
POA/5	4.75	19	0	90.25	0.51	46.0275	52.00847458	0.97%
BASA/4	1.9	306	0	581.4	0.46	267.444	302.1966102	5.66%
LUPIN/3	0.77	23	0	17.71	0.4824	8.543304	9.653450847	0.18%
LUPIN/5	0.77	291	0	224.07	0.26	58.2582	65.82847458	1.23%
AGSP/5	2.75	4.5	0	12.375	0.6	7.425	8.389830508	0.16%
FEID/3	2.85	39	0	111.15	0.5125	56.964375	64.36652542	1.20%
FEID/5	2.85	171	0	487.35	0.59	287.5365	324.9	6.08%
EPILO/3	1	3	0	3	0.4824	1.4472	1.635254237	0.03%
SIHY/3	3	37.5	0	112.5	0.9435	106.14375	119.9364407	2.25%
CHVI8/3	0.62	40.5	0	25.11	0.7812	19.615932	22.16489492	0.41%

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JUBA/6	1	6	0	6	0.7056	4.2336	4.783728814	0.09%
ERIOG/4	1.57	7.5	0	11.775	0.416	4.8984	5.534915254	0.10%
PHLO2/3	2	10.5	0	21	0.4715	9.9015	11.18813559	0.21%
ZYGAD/7	1	4	0	4	1.3344	5.3376	6.031186441	0.11%
CRAC2/2	1	1	0	1	0.3654	0.3654	0.412881356	0.01%
ARTRW/2	1.3	1276	0	1658.8	2.291	3800.3108	4294.136497	80.38%
HYDRO4/1	1	1	0	1	1.5606	1.5606	1.763389831	0.03%
PPFF/6	1	1	0	1	0.7672	0.7672	0.866892655	0.02%
CIRSI/2	1	3	0	3	1.9662	5.8986	6.665084746	0.12%
LIRU4/2	1	0	0	0	1.2977	0	0	0.00%
LINUM/2	1	1	0	1	0.6656	0.6656	0.752090395	0.01%
CANU3/2	1	0.5	0	0.5	0.3718	0.1859	0.210056497	0.00%
AGGL/2	1	0.5	0	0.5	0.3654	0.1827	0.206440678	0.00%
PENST/3	1.53	15	0	22.95	0.4715	10.820925	12.2270339	0.23%
MERTE/3	1	2.5	0	2.5	0.4715	1.17875	1.331920904	0.02%
<b>Total</b>							<b>5342.105464</b>	

### D. Plant Codes/Species Table

Plant Key		
Plant Code	Common Name	Scientific Name
FEID	Idaho fescue	<i>Festuca idahoensis</i>
PSSP (AGSP)	Bluebunch wheatgrass	<i>Pseudoregeneria spicata</i>
POSE	Sandberg's bluegrass	<i>Poa secunda</i>
ELEL (SIHY)	Squirreltail	<i>Elymus elemoides</i>
BRTE	Cheatgrass	<i>Bromus tectorum</i>
LECI (ELCI)	Great Basin Wild-rye	<i>Leymus cineris</i>
FECA4 (FESC)	Rough fescue	<i>Festuca campestris</i>
PHLO2	Longleaf Phlox	<i>Phlox longifolia</i>
ASTRAG	Milkvetch	<i>Astragalus L.</i>
BASA3	Arrowleaf Balsamroot	<i>Balsamorhiza saggitata</i>
ERIOG	Buckwheat	<i>Eriogonium Spp.</i>
LUPIN	Lupine	<i>Lupinus L.</i>
GADID	Spreading groundsmoke	<i>Gayophytum diffusum</i>
CIRSI	Thistle	<i>Cirsium Mill.</i>
DICA18	Hoary Aster	<i>Dieteria canescens</i>
ZIPA2	Deathcamas	<i>Zigadenus paniculatus</i>
LIRU4	Western Stoneseed	<i>Lithospermum ruderales</i>
ANME2	Pussytoes	<i>Antennaria media</i>
HYOC	Western Waterleaf	<i>Hydrophyllum occidentale</i>
ALAC4	Tapertip onion	<i>Allium acuminatum Nutt.</i>
CENTA	Knapweed	<i>Centaurea L.</i>
AAFF	Unknown Annual Forb	--

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ARTRW	Wyoming Big Sagebrush	<i>Artemesia tridentata</i> spp. <i>Wyomingensis</i>
ERTE18 (CHVI)	Green Rabbitbrush	<i>Ericameria teretifolia</i>
ERNA10 (CHNA)	Rubber Rabbitbrush	<i>Ericameria nauseosa</i>
PEPA8 (PENST)	Palmer's Penstemon	<i>Penstemon palmeri</i>
MERTE	Bluebells	<i>Mertensia Roth</i>
AGGL	Pale Agoseris	<i>Agoseris glauca</i>
CANU3	Sego Lily	<i>Calochortus nuttallii</i>
LINU3	Flax	<i>Linum L.</i>
PPFF	Unknown Perennial Forb	--
CRAC2	Tapertip Hawksbeard	<i>Crepis acuminata</i>
JUBA	Rush	<i>Juncus balticus</i> Wild.
EPILO	Willowherb	<i>Epilobium L.</i>

### E. Allotment Photos

2010







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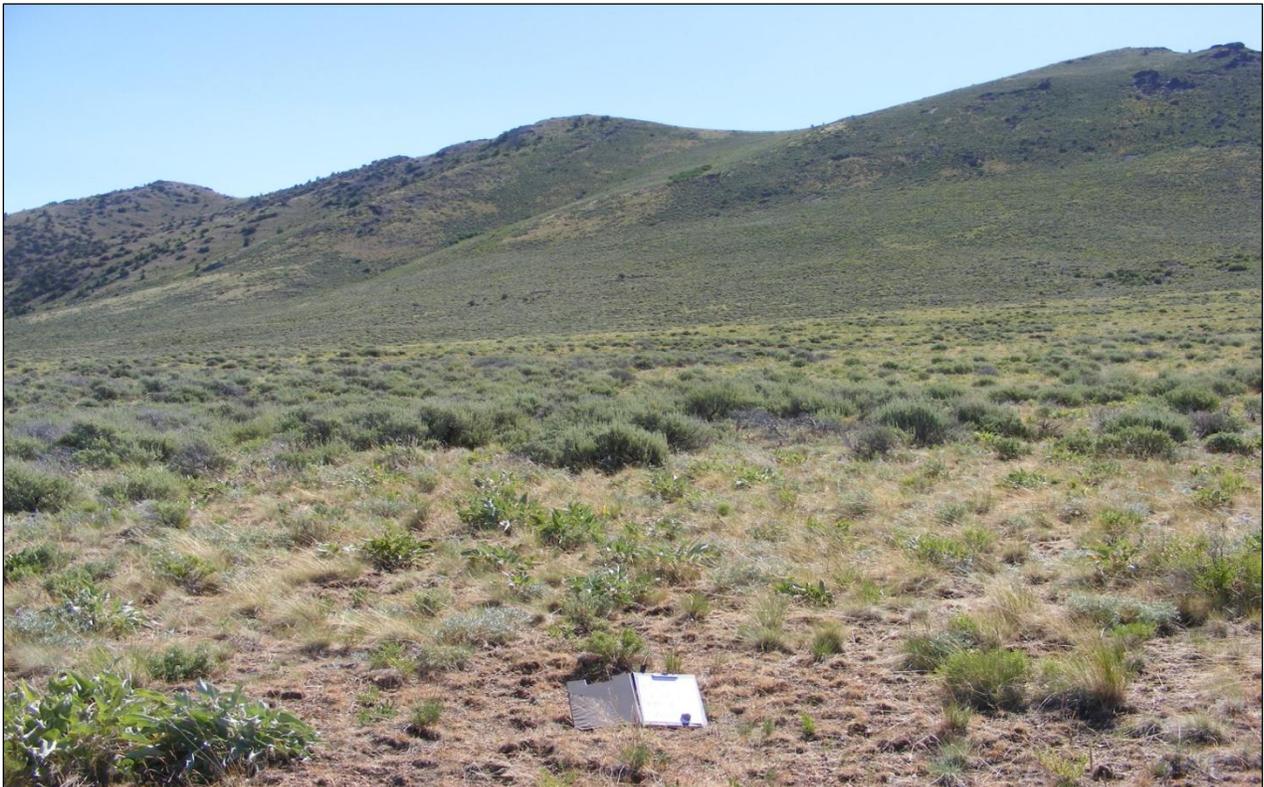
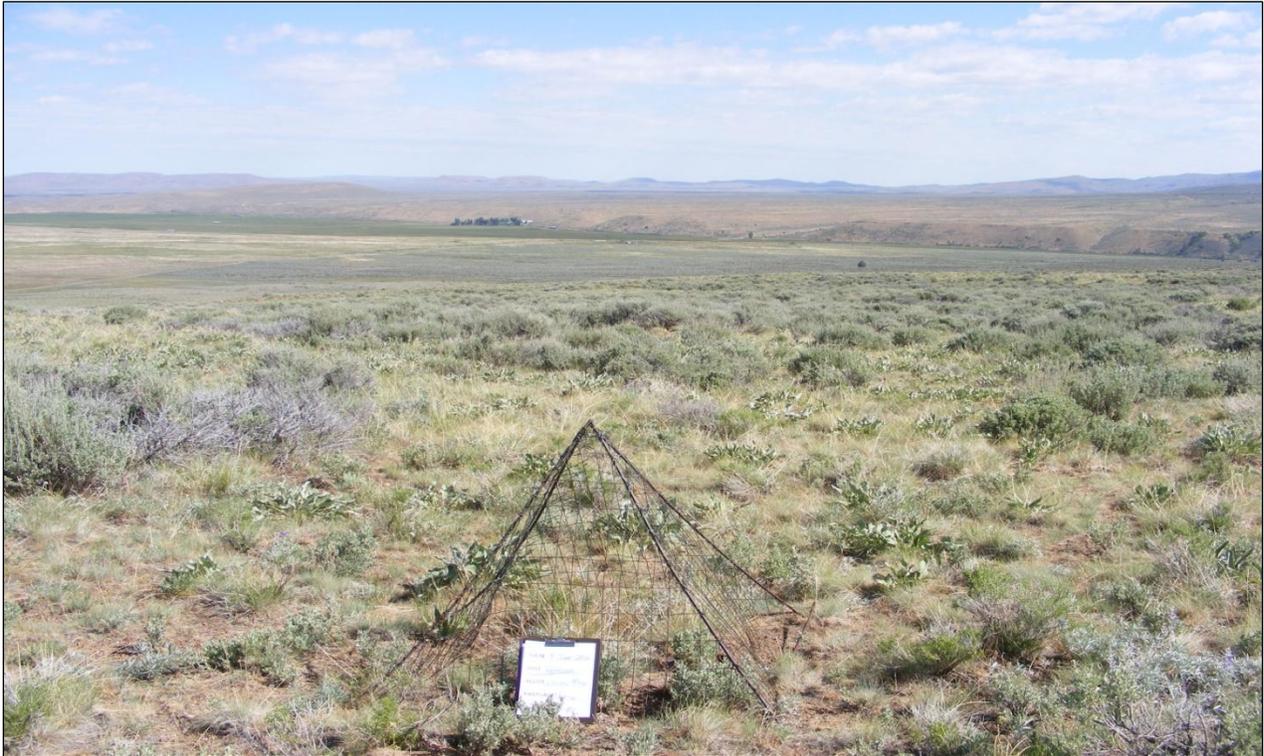
2011





2012







## Appendix II – Riparian-wetland Areas

Wilson Mountain PFC – Study 1



# Wilson Mountain Allotment Standards and Guidelines Assessment

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## Wilson Mountain Allotment PFC – Study 2



# Wilson Mountain Allotment Standards and Guidelines Assessment

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## Wilson Mountain Allotment PFC Study – 3



# Wilson Mountain Allotment Standards and Guidelines Assessment

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## Wilson Mountain Allotment PFC – Study 4



# Wilson Mountain Allotment Standards and Guidelines Assessment

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## Wilson Mountain Allotment PFC – Study 5



# Wilson Mountain Allotment Standards and Guidelines Assessment

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## Wilson Mountain Allotment PFC – Study 6



# Wilson Mountain Allotment Standards and Guidelines Assessment

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## Wilson Mountain Allotment PFC – Study 7



# Wilson Mountain Allotment Standards and Guidelines Assessment

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Wilson Mountain Allotment PFC – Study 8



Wilson Mountain Allotment PFC – Study 9



## Wilson Mountain Allotment Standards and Guidelines Assessment

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Wilson Mountain Allotment PFC – Study 10





Appendix III

Wildlife Species List from Nevada Department of Wildlife (NDOW)

[BLM Note: This list is for the NDOW-delineated Area 6, units 067 and 068 with similar Sagebrush Steppe, Mountain Brush and Wetland / Riparian habitat features found on the adjoining Wilson Mountain Allotment in Unit 062. This a broad species list for a large area where some species do not exist due to site-specific habitat needs that are not available on the allotment.]

Area 6, Units 067 and 068  
Wildlife Species List  
Nevada Department of Wildlife

**Birds**

**Order: Gaviiformes (Diver/Swimmers)**

**Family: Gaviidae (Loons)**

Common Loon *Gavia immer*

**Order: Podicipediformes (Flat-toed Divers)**

**Family: Podicipedidae (Grebes)**

Pied-billed Grebe *Podilymbus podiceps*  
Horned Grebe *Podiceps auritus*  
Eared Grebe *Podiceps nigricollis*  
Western Grebe *Aechmophorus occidentalis*  
Clark's Grebe *Aechmophorus clarkii*

**Order: Pelecaniformes (Four-toed**

**Fisheaters)**

**Family: Pelecanidae (Pelicans)**

American White Pelican *Pelecanus erythrorhynchos*

**Family: Phalacrocoracidae (Cormorants)**

Double-crested Cormorant *Phalacrocorax auritus*

**Order: Ciconiiformes (Long-legged Waders)**

**Family: Ardeidae (Bitterns, Herons, Egrets)**

American Bittern *Botaurus lentiginosus*  
Least Bittern *Ixobrychus exilis*  
Great Blue Heron *Ardea herodias*  
Great Egret *Ardea alba*  
Snowy Egret *Egretta thula*  
Cattle Egret *Bubulcus ibis*  
Green Heron *Butorides virescens*  
Black-crowned Night Heron *Nycticorax nycticorax*

**Family: Threskiornithidae (Ibises)**

White-faced Ibis *Plegadis chihi*

**Family: Cathartidae (New World Vultures)**

Turkey Vulture *Cathartes aura*  
California Condor *Gymnogyps californianus(L.E.)*

**Order: Anseriformes (Waterfowl)**

**Family: Anatidae (Ducks, Geese, Swans)**

Greater White-fronted Goose *Anser albifrons*  
Snow Goose *Chen caerulescens*

Canada Goose *Branta canadensis*  
Tundra Swan *Cygnus columbianus*  
Wood Duck *Aix sponsa*  
Gadwall *Anas strepera*  
American Wigeon *Anas americana*  
Mallard *Anas platyrhynchos*  
Blue-winged Teal *Anas discors*  
Cinnamon Teal *Anas cyanoptera*  
Northern Shoveler *Anas clypeata*  
Northern Pintail *Anas acuta*  
Green-winged Teal *Anas crecca*  
Canvasback *Aythya valisineria*  
Redhead *Aythya americana*  
Ring-necked Duck *Aythya collaris*  
Greater Scaup *Aythya marila*  
Lesser Scaup *Aythya affinis*  
Bufflehead *Bucephala albeola*  
Common Goldeneye *Bucephala clangula*  
Barrow's Goldeneye *Bucephala islandica*  
Hooded Merganser *Lophodytes cucullatus*  
Common Merganser *Mergus serrator*  
Red-breasted Merganser *Mergus serrator*  
Ruddy Duck *Oxyura jamaicensis*

**Order: Falconiformes (Diurnal Flesh Eaters)**

**Family: Accipitridae (Hawks, Eagles, Osprey)**

Osprey *Pandion haliaetus*  
Bald Eagle *Haliaeetus leucocephalus*  
Northern Harrier *Circus cyaneus*  
Sharp-shinned Hawk *Accipiter striatus*  
Cooper's Hawk *Accipiter cooperii*  
Northern Goshawk *Accipiter gentilis*  
Swainson's Hawk *Buteo swainsoni*  
Red-tailed Hawk *Buteo jamaicensis*  
Ferruginous Hawk *Buteo regalis*  
Rough-legged Hawk *Buteo lagopus*  
Golden Eagle *Aquila chrysaetos*

**Family: Falconidae (Falcons)**

American Kestrel *Falco sparverius*  
Merlin *Falco columbarius*  
Gyr Falcon *Falco rusticolus*  
Peregrine Falcon *Falco peregrinus*  
Prairie Falcon *Falco mexicanus*

# Wilson Mountain Allotment Standards and Guidelines Assessment

## Order: *Galliformes* (Chicken Relatives)

### Family: *Phasianidae* (Grouse, Partridge)

Chukar	<i>Alectoris chukar</i>
Gray Partridge	<i>Perdix perdix</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Greater Sage-Grouse	<i>Centrocercus urophasianus</i>
C. Sharp-tailed Grouse	<i>T. phasianellus columbianus</i> (L.E.)

### Family: *Odontophoridae* (New World Quail)

California Quail	<i>Callipepla californica</i>
Mountain Quail	<i>Oreortyx pictus</i>

## Order: *Gruiformes* (Cranes and Allies)

### Family: *Rallidae* (Rails, Coots)

Virginia Rail	<i>Rallus limicola</i>
Sora	<i>Porzana carolina</i>
Common Moorhen	<i>Gallinula chloropus</i>
American Coot	<i>Fulica americana</i>

### Family: *Gruidae* (Cranes)

Greater Sandhill Crane	<i>Grus canadensis tabida</i>
Lesser Sandhill Crane	<i>Grus canadensis canadensis</i>

## Order: *Charadriiformes* (Wading Birds)

### Family: *Charadriidae* (Plovers)

Black-bellied Plover	<i>Pluvialis squatarola</i>
Snowy Plover	<i>Charadrius alexandrinus</i>
Semi-palmated Plover	<i>Charadrius semipalmatus</i>
Killdeer	<i>Charadrius vociferus</i>
Mountain Plover	<i>Charadrius montanus</i>

### Family: *Recurvirostridae* (Avocets)

Black-necked Stilt	<i>Himantopus mexicanus</i>
American Avocet	<i>Recurvirostra americana</i>

### Family: *Scolopacidae* (Sandpipers, Phalaropes)

Greater Yellowlegs	<i>Tringa melanoleuca</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Solitary Sandpiper	<i>Tringa solitaria</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Spotted Sandpiper	<i>Actitis macularia</i>
Long-billed Curlew	<i>Numenius americanus</i>
Marbled Godwit	<i>Limosa fedoa</i>
Western Sandpiper	<i>Calidris mauri</i>
Least Sandpiper	<i>Calidris minutilla</i>
Baird's Sandpiper	<i>Calidris bairdii</i>
Long-billed Dowitcher	<i>Limodromus scolopaceus</i>
Wilson's Snipe	<i>Gallinago gallinago</i>
Wilson's Phalarope	<i>Phalaropus tricolor</i>
Red-necked Phalarope	<i>Phalaropus lobatus</i>

### Family: *Laridae* (Gulls, Terns)

Franklin's Gull	<i>Larus pipixcan</i>
Bonaparte's Gull	<i>Larus philadelphia</i>
Ring-billed Gull	<i>Larus delawarensis</i>
California Gull	<i>Larus californicus</i>
Caspian Tern	<i>Sterna caspia</i>
Forster's Tern	<i>Sterna forsteri</i>
Black Tern	<i>Chlidonias niger</i>

## Order: *Columbiformes* (Pigeons and Allies)

### Family: *Columbidae* (Doves)

Rock Dove	<i>Columba livia</i>
White-winged Dove	<i>Zenaida asiatica</i>
Mourning Dove	<i>Zenaida macroura</i>

Eurasian Collared-Dove
Ringed Turtle-Dove

<i>Streptopelia decaocto</i>
<i>Streptopelia risoria</i>

## Order: *Strigiformes* (Nocturnal Flesh Eaters)

### Family: *Tytonidae* (Barn Owls)

Barn Owl	<i>Tyto alba</i>
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### Family: *Strigidae* (Owls)

Flammulated Owl	<i>Otus flammeolus</i>
Western Screech-Owl	<i>Otus kennicottii</i>
Great Horned Owl	<i>Bubo virginianus</i>
Snowy Owl	<i>Nyctea scandiaca</i>
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>
Burrowing Owl	<i>Athene cunicularia</i>
Long-eared Owl	<i>Asio otus</i>
Short-eared Owl	<i>Asio flammeus</i>
Northern Saw-whet Owl	<i>Aegolius acadicus</i>

## Order: *Caprimulgiformes* (Night Jars)

### Family: *Caprimulgidae* (Goatsuckers)

Common Nighthawk	<i>Chordeiles minor</i>
Common Poorwill	<i>Phalaenoptilus nuttallii</i>

## Order: *Apodiformes* (Small Fast Fliers)

### Family: *Apodidae* (Swifts)

White-throated Swift	<i>Aeronautes saxatalis</i>
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### Family: *Trochilidae* (Hummingbirds)

Black-chinned Hummingbird	<i>Archilochus alexandri</i>
Calliope Hummingbird	<i>Stellula calliope</i>
Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>
Rufous Hummingbird	<i>Selasphorus rufus</i>

## Order: *Coraciiformes* (Cavity Nesters)

### Family: *Alcedinidae* (Kingfishers)

Belted Kingfisher	<i>Ceryle alcyon</i>
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## Order: *Piciformes* (Cavity Builders)

### Family: *Picidae* (Woodpeckers)

Lewis' Woodpecker	<i>Melanerpes lewis</i>
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Northern Flicker	<i>Colaptes auratus</i>

## Order: *Passeriformes* (Perching Birds)

### Family: *Tyrannidae* (Flycatchers)

Western Wood-Pewee	<i>Contopus sordidulus</i>
Willow Flycatcher	<i>Epidonax traillii</i>
Hammond's Flycatcher	<i>Epidonax hammondii</i>
Gray Flycatcher	<i>Epidonax wrightii</i>
Dusky Flycatcher	<i>Epidonax oberholseri</i>
Cordilleran Flycatcher	<i>Epidonax occidentalis</i>
Say's Phoebe	<i>Sayornis saya</i>
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>
Western Kingbird	<i>Tyrannus verticalis</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Scissor-tailed Flycatcher	<i>Tyrannus forficatus</i>

### Family: *Laniidae* (Shrikes)

Loggerhead Shrike	<i>Lanius ludovicianus</i>
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Northern Shrike	<i>Lanius excubitor</i>	Nashville Warbler	<i>Vermivora ruficapilla</i>
<b>Family: Vireonidae (Vireos)</b>		Virginia's Warbler	<i>Vermivora virginiae</i>
Plumbeous Vireo	<i>Vireo plumbeus</i>	Yellow Warbler	<i>Dendroica petechia</i>
Warbling Vireo	<i>Vireo gilvus</i>	Yellow-rumped Warbler	<i>Dendroica coronata</i>
<b>Family: Corvidae (Jays)</b>		Black-throated Gray Warbler	<i>Dendroica nigrescens</i>
Western Scrub-Jay	<i>Aphelocoma californica</i>	Townsend's Warbler	<i>Dendroica townsendi</i>
Clark's Nutcracker	<i>Nucifraga columbiana</i>	MacGillivray's Warbler	<i>Oporornis tolmiei</i>
Black-billed Magpie	<i>Pica pica</i>	Common Yellowthroat	<i>Geothlypis trichas</i>
American Crow	<i>Corvus brachyrhynchos</i>	Wilson's Warbler	<i>Wilsonia pusilla</i>
Common Raven	<i>Corvus corax</i>	Yellow-breasted Chat	<i>Icteria virens</i>
<b>Family: Alaudidae (Larks)</b>		<b>Family: Thraupidae (Tanagers)</b>	
Horned Lark	<i>Eremophila alpestris</i>	Western Tanager	<i>Piranga ludoviciana</i>
<b>Family: Hirundinidae (Swallows)</b>		<b>Family: Emberizidae (Sparrows, Towhees, Juncos)</b>	
Tree Swallow	<i>Tachycineta bicolor</i>	Green-tailed Towhee	<i>Pipilo chlorurus</i>
Violet-green Swallow	<i>Tachycineta thalassina</i>	Spotted Towhee	<i>Pipilo maculatus</i>
Bank Swallow	<i>Riparia riparia</i>	American Tree Sparrow	<i>Spizella arborea</i>
N. Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Chipping Sparrow	<i>Spizella passerina</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	Brewer's Sparrow	<i>Spizella breweri</i>
Barn Swallow	<i>Hirundo rustica</i>	Vesper Sparrow	<i>Poocetes gramineus</i>
<b>Family: Paridae (Chickadees, Titmice)</b>		Lark Sparrow	<i>Chondestes grammacus</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>	Black-throated Sparrow	<i>Amphispiza bilineata</i>
Mountain Chickadee	<i>Poecile gambeli</i>	Sage Sparrow	<i>Amphispiza belli</i>
Juniper Titmouse	<i>Baeolophus griseus</i>	Savannah Sparrow	<i>Passerculus sandwichensis</i>
<b>Family: Aegithalidae (Bushtits)</b>		Grasshopper Sparrow	<i>Ammodramus bairdii</i>
Bushtit	<i>Psaltriparus minimus</i>	Fox Sparrow	<i>Passerella iliaca schistacea</i>
<b>Family: Troglodytidae (Wrens)</b>		Song Sparrow	<i>Melospiza melodia</i>
Rock Wren	<i>Salpinctes obsoletus</i>	Lincoln's Sparrow	<i>Melospiza lincolni</i>
Canyon Wren	<i>Catherpes mexicanus</i>	White-throated Sparrow	<i>Zonotrichia albicollis</i>
Bewick's Wren	<i>Thyomanes bewickii</i>	Harris' Sparrow	<i>Zonotrichia querula</i>
House Wren	<i>Troglodytes aedon</i>	Gambel's White-crowned Sparrow	<i>Zonotrichia leucophrys gambelii</i>
Winter Wren	<i>Troglodytes troglodytes</i>	Mountain W-crowned Sparrow	<i>Zonotrichia leucophrys oriantha</i>
Marsh Wren	<i>Cistothorus palustris</i>	Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>
<b>Family: Cinclidae (Dippers)</b>		Dark-eyed Junco (Oregon)	<i>Junco hyemalis therburi</i>
American Dipper	<i>Cinclus mexicanus</i>	Dark-eyed Junco (Gray-headed)	<i>Junco hyemalis caniceps</i>
<b>Family: Regulidae (Kinglets)</b>		Lapland Longspur	<i>Calcarius lapponicus</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>	<b>Family: Cardinalidae (Grosbeaks, Buntings)</b>	
Ruby-crowned Kinglet	<i>Redulus calendula</i>	Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
<b>Family: Sylviidae (Gnatcatchers)</b>		Blue Grosbeak	<i>Guiraca caerulea</i>
Blue-gray Gnatcatcher	<i>Poliopitila caerulea</i>	Lazuli Bunting	<i>Passerina amoena</i>
<b>Family: Turdidae (Thrushes)</b>		Indigo Bunting	<i>Passerina cyanea</i>
Western Bluebird	<i>Sialia mexicana</i>	<b>Family: Icteridae (Blackbirds, Orioles)</b>	
Mountain Bluebird	<i>Sialia currucoides</i>	Bobolink	<i>Dolichonyx oryzivorus</i>
Townsend's Solitaire	<i>Myadestes townsendi</i>	Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Veery	<i>Catharus fuscescens</i>	Western Meadowlark	<i>Sturnella neglecta</i>
Swainson's Thrush	<i>Catharus ustulatus</i>	Yellow-headed Blackbird	<i>Xanthocephalus</i>
Hermit Thrush	<i>Catharus guttatus</i>	<i>xanthocephalus</i>	
American Robin	<i>Turdus migratorius</i>	Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Varied Thrush	<i>Ixoreus naevius</i>	Great-tailed Grackle	<i>Quiscalus mexicanus</i>
<b>Family: Mimidae (Thrashers, Mockingbirds)</b>		Brown-headed Cowbird	<i>Molothrus ater</i>
Northern Mockingbird	<i>Mimus polyglottos</i>	Bullock's Oriole	<i>Icterus bullockii</i>
Sage Thrasher	<i>Oreoscoptes montanus</i>	<b>Family: Fringillidae (Finches, Grosbeaks)</b>	
<b>Family: Sturnidae (Starlings)</b>		Gray-crowned Rosy-Finch	<i>Leucosticte tephrocottis</i>
European Starling	<i>Sturnus vulgaris</i>	Black Rosy-Finch	<i>Leucosticte atrata</i>
<b>Family: Motacillidae (Pipits)</b>		Cassin's Finch	<i>Carpodacus cassinii</i>
American Pipit	<i>Anthus rubescens</i>	House Finch	<i>Carpodacus mexicanus</i>
<b>Family: Bombycillidae (Waxwings)</b>		Red Crossbill	<i>Loxia curvirostra</i>
Bohemian Waxwing	<i>Bombycilla garrulus</i>	Common Redpoll	<i>Carduelis flammea</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Pine Siskin	<i>Carduelis pinus</i>
<b>Family: Parulidae (Wood Warblers)</b>		Lesser Goldfinch	<i>Carduelis psaltria</i>
Orange-crowned Warbler	<i>Vermivora celata</i>		

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American Goldfinch *Carduelis tristis*  
**Family: Passeridae (Old World Sparrows)**  
House Sparrow *Passer domesticus*

## Mammals

### Order: Insectivora (Insect Eaters)

#### Family: Soricidae (Shrews)

Merriam's Shrew *Sorex meriammi*  
Dusky Shrew *Sorex monticolus*  
Vagrant Shrew *Sorex vagrans*  
Northern Water Shrew *Sorex palustris*  
Preble's Shrew *Sorex preblei*

### Order: Chiroptera (Bats)

#### Family: Vespertilionidae (Plainnose Bats)

California Myotis *Myotis californicus*  
Western Small-footed Myotis *Myotis ciliolabrum*  
Long-eared Myotis *Myotis evotis*  
Little Brown Bat *Myotis lucifugus*  
Fringed Myotis *Myotis thysanodes*  
Long-legged Myotis *Myotis volans*  
Yuma Myotis *Myotis yumanensis*  
Western Red Bat *Lasiurus blossevillii*  
Hoary Bat *Lasiurus cinereus*  
Silver-haired Bat *Lasionycteris noctivagans*  
Western Pipistrelle *Pipistrellus hesperus*  
Big Brown Bat *Eptesicus fuscus*  
Townsend's Big-eared Bat *Corynorhinus townsendii*  
Spotted Bat *Euderma maculatum*  
Pallid Bat *Antrozous pallidus*

#### Family: Molossidae (Freetail Bats)

Brazilian Free-tailed Bat *Tadarida brasiliensis*

### Order: Lagomorpha (Pikas, Hares, Rabbits)

#### Family: Leporidae (Hares, Rabbits)

White-tailed Jackrabbit *Lepus townsendi*  
Black-tailed Jackrabbit *Lepus californicus*  
Mountain Cottontail *Sylvilagus nuttalli*  
Pygmy Rabbit *Brachylagus idahoensis*

### Order: Rodentia (Rodents)

#### Family: Sciuridae (Squirrels)

Least Chipmunk *Tamias minimus*  
Uinta Chipmunk *Tamias umbrinus*  
Yellow-bellied Marmot *Marmota flaviventris*  
White-tailed Antelope Squirrel *Ammospermophilus leucurus*  
Great Basin Ground Squirrel *Spermophilus mollis*  
Belding's Ground Squirrel *Spermophilus beldingi*  
Wyoming Ground Squirrel *Spermophilus elegans*  
Golden-mantled Ground Squirrel *Spermophilus lateralis*

#### Family: Geomyidae (Gophers)

Botta's Pocket Gopher *Thomomys bottae*  
Northern Pocket Gopher *Thomomys talpoides*  
Townsend's Pocket Gopher *Thomomys townsendii*

#### Family: Heteromyidae (Kangaroo Rodents)

Little Pocket Mouse *Perognathus longimembris*  
Great Basin Pocket Mouse *Perognathus parvus*  
Dark Kangaroo Mouse *Microdipodops megacephalus*

#### Family: Heteromyidae (Kangaroos cont.)

Ord Kangaroo Rat *Dipodomys ordii*  
Chisel-toothed Kangaroo Rat *Dipodomys microps*

#### Family: Castoridae (Beavers)

American Beaver *Castor canadensis*

#### Family: Cricetidae (Mice, Rats, Voles)

Western Harvest Mouse *Reithrodontomys megalotis*  
Canyon Mouse *Peromyscus crinitus*  
Deer Mouse *Peromyscus maniculatus*  
Northern Grasshopper Mouse *Onychomys leucogaster*  
Desert Woodrat *Neotoma lepida*  
Bushy-tailed Woodrat *Neotoma cinerea*  
Mountain Vole *Microtus montanus*  
Long-tailed Vole *Microtus longicaudus*  
Sagebrush Vole *Lemmiscus curtatus*  
Muskrat *Ondatra zibethica*

#### Family: Zapodidae (Jumping Mice)

Western Jumping Mouse *Zapus princeps*

#### Family: Erethizontidae (New World Porcupines)

North American Porcupine *Erethizon dorsatum*

### Order: Carnivora (Flesh-Eaters)

#### Family: Canidae (Dogs)

Coyote *Canis latrans*  
Gray Wolf *Canis lupus (L.E.)*  
Kit Fox *Vulpes velox*  
Red Fox *Vulpes vulva*

#### Family: Ursidae (Bears)

Black Bear *Ursus americanus*

#### Family: Procyonidae (Raccoons and Allies)

Ringtail *Bassariscus astutus*  
Common Raccoon *Procyon lotor*

#### Family: Mustelidae (Weasels and Allies)

Short-tailed Weasel *Mustela erminea*  
Long-tailed Weasel *Mustela frenata*  
Mink *Mustela vison*  
Wolverine *Gulo gulo (L.E.)*  
Northern River Otter *Lontra canadensis*  
American Badger *Taxidea taxus*  
Striped Skunk *Mephitis mephitis*  
Western Spotted Skunk *Spilogale gracilis*

#### Family: Felidae (Cats)

Mountain Lion *Felix concolor*  
Lynx *Lynx lynx (L.E.)*  
Bobcat *Lynx rufus*

### Order: Artiodactyla (Hoofed Mammals)

#### Family: Cervidae (Deer)

Rocky Mountain Elk *Cervus canadensis*  
Mule Deer *Odocoileus hemionus*

#### Family: Antilocapridae (Pronghorn)

Pronghorn *Antilocapra americana*

#### Family: Bovidae (Bison, Sheep, Goats)

Rocky Mountain Bighorn Sheep *O. c. Canadensis (L.E.)*

## Reptiles

### Order: Squamata (Lizards, Snakes)

#### Family: Iguanidae (Iguanas and Allies)

Common Zebra-tailed Lizard *Callisaurus draconoides*  
Long-nosed Leopard Lizard *Gambelia wislizenii*

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Desert Spiny Lizard	<i>Sceloporus magister</i>
Western Fence Lizard	<i>Sceloporus occidentalis</i>
Sagebrush Lizard	<i>Sceloporus graciosus</i>
Side-blotched Lizard	<i>Uta stansburiana</i>
Greater Short-horned Lizard	<i>Phrynosoma hernandesi</i>
Desert Horned Lizard	<i>Phrynosoma platyrhinos</i>

## Family: *Scincidae* (Skinks)

Western Skink	<i>Eumeces skiltonianus</i>
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## Family: *Teiidae* (Whiptails)

Western Whiptail	<i>Cnemidophorus tigris</i>
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## Family: *Boidae* (Boas, Pythons)

Rubber Boa	<i>Charina bottae</i>
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## Family: *Colubridae* (Solid-toothed Snakes)

Ringneck Snake	<i>Diadophis punctatus</i>
Striped Whipsnake	<i>Masticophis taeniatus</i>
Western Yellow-bellied Racer	<i>Coluber constrictor mormon</i>
Great Basin Gopher Snake	<i>Pituophis cantenifer deserticola</i>
Common Kingsnake	<i>Lampropeltis getulus</i>
Long-nosed Snake	<i>Rhinocheilus lecontei</i>
Western Terrestrial Garter	<i>Thamnophis elegans</i>
Ground Snake	<i>Sonora semiannulata</i>
Night Snake	<i>Hypsiglena torquata</i>

## Family: *Viperidae* (Vipers)

Great Basin Rattlesnake	<i>Crotalus viridis lutosus</i>
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## Amphibians

### Order: *Anura* (Frogs and Toads)

#### Family: *Pelobatidae* (Spadefoots)

Great Basin Spadefoot Toad	<i>Spea intermontana</i>
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#### Family: *Ranidae* (True Frogs)

Columbia Spotted Frog	<i>Rana luteiventris</i>
Northern Leopard Frog	<i>Rana pipiens</i>
Bullfrog	<i>Rana catesbeiana</i>

#### Family: *Bufonidae* (Toads)

Western Toad	<i>Bufo boreas</i>
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#### Family: *Hylidae* (Treefrogs)

Pacific Chorus Frog	<i>Pseudacris regilla</i>
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## Fish

### Order: *Salmoniformes*

#### Family: *Salmonidae* (Salmon and Trout)

Chinook Salmon	<i>Oncorhynchus tshawytscha</i> (L.E.)
Rainbow Trout	<i>Oncorhynchus mykiss</i>
Redband Trout	<i>Oncorhynchus mykiss gairdneri</i>
Lahontan cutthroat trout	<i>Oncorhynchus clarki henshawi</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Mountain Whitefish	<i>Prosopium williamsoni</i>
Brown Trout	<i>Salmo trutta</i>

### Order: *Scorpaeniformes*

#### Family: *Cottidae* (Sculpins)

Paiute Sculpin	<i>Cottus beldingii</i>
Mottled Sculpin	<i>Cottus bairdii</i>

### Order: *Cypriniformes*

#### Family: *Cyprinidae* (Carp and Minnows)

Chiselmouth	<i>Acrocheilus alutaceus</i>
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>
Longnose Dace	<i>Rhinichthys cataractae</i>
Speckled Dace	<i>Rhinichthys osculus</i>
Redside Shiner	<i>Richardsonius balteatus</i>
Tui Chub	<i>Gila</i>

*bicolor*

Asiatic Carp	<i>Cyprinus carpio</i>
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## Family: *Catostomidae* (Suckers)

Bridgelip Sucker	<i>Catostomus columbianus</i>
Mountain Sucker	<i>Catostomus platyrhynchus</i>
Tahoe Sucker	<i>Catostomus tahoensis</i>

## Order: *Siluriformes*

### Family: *Ictaluridae* (Catfish)

Channel catfish	<i>Ictalurus punctatus</i>
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## Order: *Perciformes*

### Family: *Centrarchidae* (Bass and allies)

Largemouth Bass	<i>Micropterus salmoides</i>
Smallmouth Bass	<i>Micropterus dolomieu</i>
Bluegill	<i>Lepomis macrochirus</i>
Crappie	<i>Pomoxis nigromaculatus</i>

L.E. = Locally Extirpated

Note: This list is a combination of wildlife sight record data and our best effort to predict what wildlife species live in this area in all seasons and under optimum habitat conditions.

\*With the exception of the European Starling, House Sparrow, Eurasian Collared-Dove, Ringed Turtle-Dove and Rock Dove, all birds are protected in Nevada by either the International Migratory Bird Treaty Act, Endangered Species Act or as game species. Several mammal, reptile, amphibian and fish species are also protected as either game, sensitive, threatened or priority species. For further information on a species status, visit our web site at [NDOW.ORG](http://NDOW.ORG).

Updated: 9/2011 - Peter V. Bradley - Nevada Department of Wildlife - Elko, Nevada.

# Wilson Mountain Allotment Standards and Guidelines Assessment

## Appendix 3. Migratory Birds by Habitat Type

Aspen	Montane Shrub	Montane Riparian
<p>Obligates**: None</p> <p>Other**: Northern Goshawk Calliope Hummingbird Flammulated Owl Lewis's Woodpecker Red-naped Sapsucker Mountain Bluebird Orange-crowned Warbler MacGillivray's Warbler Wilson's Warbler</p> <p>Other Associated Species*** Cooper's Hawk Northern Flicker Hermit Thrush Yellow-rumped Warbler Long-eared Owl</p>	<p>Obligates: None</p> <p>Other: Black Rosy Finch Black-throated Gray Warbler Calliope Hummingbird Cooper's Hawk Loggerhead Shrike Blue Grosbeak Vesper Sparrow MacGillivray's Warbler Orange-crowned Warbler Swainson's Hawk Western Bluebird</p>	<p>Obligates: Wilson's Warbler MacGillivray's Warbler</p> <p>Other: Cooper's Hawk Northern Goshawk Calliope Hummingbird Lewis's Woodpecker Red-Naped Sapsucker Orange-crowned Warbler Virginia's Warbler Yellow-breasted Chat</p> <p>Other Associated Species Warbling Vireo Broad-tailed Hummingbird Fox Sparrow Blue Grouse</p>
Cliffs and Talus	Sagebrush	Lakes (Playas)****
<p>Obligates: Prairie Falcon Black Rosy Finch</p> <p>Other: Ferruginous Hawk</p> <p>Other Associated Species Golden Eagle White-throated Swift Say's Phoebe Common Raven Cliff Swallow Violet-green Swallow Canyon Wren Rock Wren</p>	<p>Obligates: Sage Grouse</p> <p>Other: Black Rosy Finch Ferruginous Hawk Gray Flycatcher Loggerhead Shrike Vesper Sparrow Prairie Falcon Sage Sparrow Sage Thrasher Swainson's Hawk Burrowing Owl Calliope Hummingbird</p> <p>Other associated species: Brewer's Sparrow Western Meadowlark Black-throated Sparrow Lark Sparrow Green-tailed Towhee Brewer's Blackbird Horned Lark Lark Sparrow</p>	<p>Obligates (PIF-listed as Wetlands/Lakes): White-faced Ibis Snowy Plover American Avocet Black Tern</p> <p>Other (PIF-listed as Wetlands/Lakes): Sandhill Crane Long-billed Curlew Short-eared Owl Other Associated Species (Wetlands/Lakes) American bittern Great Egret Snowy Egret Cattle Egret Black-crowned Night Heron Marsh Wren Common Yellowthroat Yellow-headed Blackbird</p>

\*\* "Obligates" are species that are found only in the habitat type described in the section. [Habitat needed during life cycle even though a significant portion of their life cycle is supported by other habitat types]

\*\* "Other" are species that can be found in the habitat type described the Nevada Partners in Flight Bird Conservation Plan.

\*\*\*\* Other Associated (Wetlands/Lakes) Species are predominately associated with wetlands where emergent aquatic vegetation provides cover and foraging areas. Otherwise, manmade reservoirs and dry or wet meadow areas could provide some seasonal habitat for some of the species shown.

Some of these migratory bird species are also designated as BLM Sensitive Species.

## Federally-Listed Species & Candidate Species

BLM policy (516 DM 6840) defines special status species to include:

- Federally Threatened or Endangered Species: Any species that the U.S. Fish and Wildlife Service has listed as an endangered or threatened species under the Endangered Species Act throughout all or a significant portion of its range.
- Proposed Threatened or Endangered Species: Any species that the Fish and Wildlife Service has proposed for listing as a federally endangered or threatened species under the Endangered Species Act.
- Candidate Species: Plant and animal taxa that are under consideration for possible listing as threatened or endangered under the Endangered Species Act.
- BLM Sensitive Species: Species 1) that are currently under status review by the U.S. Fish and Wildlife Service, 2) whose numbers are declining so rapidly that Federal listing may become necessary; 3) with typically small and widely dispersed populations; or 4) that inhabit ecological refugia or other specialized or unique habitats as of October 2011 list from BLM Nevada State Office.
- State of Nevada Listed Species: State-protected animals that have been determined to meet BLM’s Manual 6840 policy definition.

FEDERALLY-LISTED THREATENED and ENDANGERED SPECIES and CANDIDATE SPECIES

COMMON NAME	SCIENTIFIC NAME
Federally-Listed Endangered Species	
None	None
Federally-Listed Threatened Species	
None	None
Federally-Proposed Threatened or Endangered Species	
None	None
Federally-Listed Candidate Species	
Greater Sage-Grouse	<i>Centrocercus urophasianus</i>

### Greater Sage Grouse Lek Terminology

**Active** - a lek that had two or more birds present during at least one of three or more visitations in a given breeding season. For a strutting ground to attain this status it must also have had two or more birds present during at least two years in a five-year period (Connelly et al. 2003).

**Inactive** - a lek that has been surveyed three or more times during one breeding season with no birds detected during the visitations and no sign observed on the lek. If a lek is only visited once during a breeding season and was surveyed under adequate conditions and no birds were observed at the location during the current and the previous year and no sign was observed at the lek, then an inactive status can be applied to the lek.

**Unknown** - a lek that may not have had birds present during the last visitation, but could be considered viable due to the presence of sign at the lek. This designation could be especially useful when weather conditions or observer arrival at a lek could be considered unsuitable to observe strutting behavior. The presence of a single strutting male would invoke the classification of the lek as unknown. A lek that was active in the previous year, but was inadequately sampled (as stated above) in the current year with no birds observed could also be classified as unknown.

**Nevada BLM Sensitive Mammals**

COMMON NAME	SCIENTIFIC NAME
Species	Nevada BLM Sensitive Mammals
Pygmy rabbit	<i>Brachylagus idahoensis</i>
Preble’s shrew	<i>Sorex pleblei</i>
Western Small-Footed Myotis	<i>Myotis ciliolabrum</i>
Long-eared myotis	<i>Myotis evotis</i>
Long-legged myotis	<i>Myotis volans</i>
Spotted bat	<i>Euderma maculatum</i>
Fringed myotis	<i>Myotis thysanodes</i>
Yuma myotis	<i>Myotis yumanensis</i>
Townsend's big-eared bat	<i>Plecotus townsendi</i>
Pallid bat	<i>Antrozous pallidus</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
California myotis	<i>Myotis californicus</i>
Brazilian Free-Tailed Bat	<i>Tadarida brasiliensis</i>
Western Pipistrelle	<i>Pipistrellus hesperus</i>

Pygmy Rabbit – (See BLM Sensitive Species Section in the body of the assessment.)

Preble’s Shrew - Preble’s shrews are found in Nevada primarily in riparian habitat. Riparian areas on the allotment provide potential habitat.

Bats

The cliffs, talus, shallow caves, rock crevices, and any dead or decadent (at least 50% dead) trees with cavities provide potential bat roost sites on the allotment. Foraging areas for insects are provided on the uplands on the area where use could occur in concert with use on natural or artificially impounded water, drainage areas and riparian/meadow areas. Species that are likely to occur or have the potential to occur are as follows:

Western Small-Footed Myotis -- This bat species could occur in the allotment. Roosting occurs primarily in caves or mine shafts or adits which occur in or near the area.

Long-Eared Myotis -- This bat species is relatively common throughout northeastern Nevada and could occur in the area. This bat has also been reported to be found within a variety of habitats.

Long-Legged Myotis -- This bat species uses a variety of sites for roosting and could potentially inhabit the area.

Spotted Bat -- Suitable habitat could occur in the area. Roosting sites include rock crevices on steep cliff faces which exist in the area.

## Wilson Mountain Allotment Standards and Guidelines Assessment

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Fringed Myotis -- This bat species is uncommon in the Great Basin. Shallow caves on the Bull Run Range, including those on the allotment, could provide roosting habitat.

Yuma Myotis - A record of this bat species occurring in northeast Nevada was noted as of the 2002 Nevada Bat Conservation Plan. Therefore, there is potential for this species to exist on the area. This species utilizes caves and rock crevices for roosting. These features exist in the area; however, the availability and suitability of caves is not known.

Townsend's Big-Eared Bat – This species generally requires caves for roosting. It has also been documented to utilize inactive mine shafts and adits for breeding activities in Northeastern Nevada. The availability and suitability of caves and mine shafts and adits on or near the allotment is not known.

Pallid Bat - The pallid bat is a year-round resident in Nevada. Found primarily at low and mid elevations (1,300 to 8,400 feet above mean sea level [amsl]). This species utilizes a variety of habitats including sagebrush. Relative to the allotment and surrounding area, roost sites include rock outcrops, mines and caves. This species has been documented to the southwest (Sheep Creek Range) and is likely to occur within the allotment.

Big Brown Bat - The big brown bat is a year-round resident in Nevada. This species is found from low to high elevations (980 to 9,800 feet amsl) and occupies a variety of habitats sagebrush. Relative to the allotment and surrounding area, roost sites include caves, mines and trees. This species has been documented to the south (Santa Renia Mountains) and is likely to occur on the allotment.

California Myotis - This species is a year-round resident found throughout Nevada at low to upper elevations (689 to 8,957 feet amsl). This species occurs in a variety of habitats including sagebrush.

Relative to the allotment and surrounding area, roost sites include mine shafts/adits, caves, rock crevices, hollow trees, and under exfoliating bark. Roost sites and suitable foraging habitat suggest that this species could occur on the area.

Brazilian Free-Tailed Bat – This species is found throughout Nevada in a wide variety of habitats ranging from desert scrub to high elevation mountain habitats (680 to 8,200 feet amsl). It has been documented on the Humboldt River corridor around 70 miles south of the allotment. Relative to the allotment and surrounding area, roost sites include cliff faces, caves, and mine shafts/adits. Based on the presence of suitable foraging habitat, this species could potentially occur on the allotment.

Western Pipistrelle Bat – This species is a year-round resident in Nevada, occupying low to upper elevations (680 to 8,200 feet amsl) including sagebrush habitat. Relative to the allotment and surrounding area, roost sites include mine shafts/adits, caves, or occasionally within vegetation. This species has been documented south of the allotment on a riparian corridor surrounded by rocky terrain. Based on the presence of suitable foraging habitat on or near the allotment, this species is likely to occur on the allotment.

**Nevada BLM Sensitive and State of Nevada-Special Status Species - Birds**

COMMON NAME	SCIENTIFIC NAME
<b>Nevada BLM Sensitive and State of Nevada-Special Status Species</b>	
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Northern Goshawk	<i>Accipiter gentilis</i>
American Peregrine Falcon	<i>Falco peregrinus</i>
Sage Thrasher	<i>Oreoscoptes montanus</i>
Brewer's Sparrow	<i>Spizella breweri</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
<b>State of Nevada-Special Status Species only</b>	
Golden Eagle	<i>Aquila chrysaetos</i>
Western Burrowing Owl	<i>Athene cunicularia</i>
Ferruginous Hawk	<i>Buteo regalis</i>
Swainson's Hawk	<i>Buteo swainsoni</i>
Black Rosy-Finch	<i>Leucosticte atrata</i>
Lewis' Woodpecker	<i>Melanerpes lewis</i>

**Nevada BLM Sensitive and State of Nevada-Listed Birds**

**Raptors**

Bald Eagle -- On July 9, 2007, it was announced that the bald eagle has been removed (de-listed) from the list of threatened and endangered species. BLM is coordinating with the NDOW to ensure compliance with state regulations regarding the bald eagle. As of August 30, 2007, BLM policy is to consider the bald eagle as a BLM Sensitive Species.

After de-listing, bald eagles would continue to be protected under the Bald and Golden Eagle Protection Act (BGEPA), as amended, and the Migratory Bird Treaty Act. Both of these laws prohibit killing, selling or otherwise harming eagles, their nests, or their eggs. In June 2007, the US Fish and Wildlife Service clarified its regulations implementing the BGEPA and published the National Bald Eagle Management Guidelines. The US Fish and Wildlife Service is in the process of establishing a permit program under the BGEPA that would authorize limited take of bald and golden eagles consistent with the purpose and goal of the BGEPA. The Service has also prepared a post-delisting bald eagle monitoring plan.

Bald Eagles have been documented on private agricultural lands, around to miles from the allotment boundary, during the winter period. They likely inhabit the allotment area due to suitable habitat for foraging primarily during the winter period or during migration. Suitable habitat on uplands, irrigated lands and riparian areas is widely dispersed over tens of thousands of acres with primary use occurring during the winter period or as a migrant throughout the Elko District.

## Wilson Mountain Allotment Standards and Guidelines Assessment

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Northern Goshawk – The allotment has suitable nesting primarily within quaking aspen stands and may be an occasional winter visitor.

Prairie Falcon -- The allotment provide nesting (primarily cliff areas) and foraging habitat for this species where prey species are primarily small mammals. Black-tailed jackrabbits provide a primary forage base.

American Peregrine Falcon -- This species is considered to be a potential migrant on the area with use of suitable habitat for foraging. There are no known nest sites on the allotment or adjoining allotments.

### **Other Bird Species – Sagebrush Obligate or Sagebrush-Associated Songbirds**

#### **Other Bird Species (Songbirds)**

The habitat conditions for the following bird species and additional bird species listed in Appendix 3, are likely to be in “good” condition considering mule deer and sage-grouse habitat conditions and PFC ratings mentioned above.

Loggerhead Shrike –Nesting and foraging habitat is provided in the area primarily by ecological sites characterized by the big sagebrush-bitterbrush, mountain, basin and Wyoming big sagebrush vegetation types. Foraging habitat is provided on sagebrush-grass areas with variable canopy cover of brush species. Loggerhead shrikes are commonly observed by BLM and NDOW personnel on intact sagebrush habitat areas on the Elko District.

Brewer’s Sparrow – This species nests in the canopy of sagebrush within sagebrush grasslands. The area provides nesting and foraging habitat. A nest with eggs was observed by BLM personnel on May 28, 2009.

Sage Thrasher - This species nests in the canopy of sagebrush within sagebrush grasslands. The area provides potential nesting and foraging habitat. This species is commonly observed by BLM personnel during the summer period on intact sagebrush habitat areas on the Elko District.

### **State of Nevada- Special Status Species only**

#### **Raptors**

Golden Eagle - See narrative in the body of the assessment under Subsection 7.7 BLM Sensitive Species and State of Nevada-Special Status Species.

Western Burrowing Owl – An adult burrowing owl was observed near the Elko County-maintained road on the private lands portion of the allotment on June 29, 2010. The adjoining public lands also provide suitable nesting and foraging habitat. Abandoned mammal burrows, such as those created by badgers, help to provide nesting habitat. This species tends to use disturbed or open sites with minimal vegetation for nesting and loafing, such as recent burned areas or areas near troughs, corrals, or livestock mineral licks where open terrain exists. This

## Wilson Mountain Allotment Standards and Guidelines Assessment

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may be due to the lack of vegetation at these sites that allows increased visibility from the burrow entrance.



Individual adult Western Burrowing Owl at upper mid-portion of photo. Wilson Mountain Allotment on June 29, 2010.

Ferruginous Hawk –In Nevada, this species prefers to nest in scattered juniper woodlands that are found on the edge of salt desert shrub or sagebrush vegetation types overlooking broad valleys. Individual and scattered stands of Western juniper exist on the area. They could also nest on the top of tall sagebrush/other shrubs, rock outcrops, manmade structures or on deciduous trees such quaking aspen. Tall sagebrush/other shrubs could be defined as shrubs existing at about six feet in height or higher, out of the reach of potential ground-dwelling predators such as coyotes. Shrubs at this height occurs on the allotment.. Otherwise, the area provides foraging habitat during migration or seasonal movement events. Black-tailed jackrabbits and ground squirrels provide a primary forage base.

Swainson's Hawk – This species has been documented in the past around 3.5 miles east of the allotment in Bull Run Basin. Rock ledges or deciduous trees such as stands of quaking aspen along drainage areas provide potential primary nesting habitat. The variety of habitat on the area provides foraging habitat during the summer period and during migration or seasonal movement events.

### **Other Bird Species (Songbirds)**

Black-Rosy Finch – The area provides suitable winter habitat on sagebrush grasslands.

Lewis' Woodpecker - Riparian areas with tree cover provide foraging and nesting habitat for this species. Quaking aspen and chokecherry stands along drainage courses and adjoining uplands and other riparian habitat would provide the primary habitat for this species on the allotment.

# Wilson Mountain Allotment Standards and Guidelines Assessment

## Wildlife Data Summary Table

### Wilson Mountain Allotment

South Slope 12-14" Precipitation Zone Ecological Site – Mountain Brush Vegetation Type.

TRANSECT CDW-WM- 01-91	BIG GAME HABITAT CONDITION RATING	KEY BROWSE CONDITION PUTR2 Plant Code (Antelope Bitterbrush)			RELATIVE SPECIES COMPOSITION			Absolute % Perennial Native Herbaceous Plant Cover, and Ave. Droop Height in Inches			SHRUB FOLIAR COVER/ and Shrub Height in inches	LIMITING FACTORS/ REMARKS
		Age Class	Form Class	Utilization	Shrubs	Grasses	Forbs	Basal	Aerial	Droop Height		
August 14, 1991	"FAIR"	Satisfactory	Satisfactory	34% monitored on 10/31/91	74.3%	22%	3.7%	8.5%	No data	No data	25.2% including 9% ARTRVA  Approx. Shrub Height from Density Board= 13.8 in.	Forage Diversity was low. Bitterbrush utilization monitored on 10/22/91 after cattle off pasture. Allotment boundary and pasture fences are barriers to big game and other wildlife movements. Fence modifications completed, in part, on public lands in early 1990s.
May 15, 2002	"GOOD"	Satisfactory	Satisfactory	34% (Of Year 2001 leader growth)	65.7%	18.4%	3.7% Native ..... 12.1% Bur Butter- cup	10.4%	No Data	5.4 in. "Tall genera" grass sample only	31% including 11.2% sagebrush	No cheatgrass was noted in the transect. Bur buttercup, an invasive annual exotic weed, comprised 76.6% of the forb sample. Fence barriers present.
June 29, 2010	"GOOD"	Satisfactory	Satisfactory	No Data – Active Growth	74.2%	18.5%	7.0%	11.6%	27%	8.3 in.	33.8% including 17.2% sagebrush	No bur buttercup sampled on transect. Fence barriers documented inc. pasture division fence.

# Wilson Mountain Allotment Standards and Guidelines Assessment

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## Wilson Mountain Allotment – North Pasture, Key Area Transect CDW-WM-01-91. Antelope Bitterbrush (PUTR2) - Key Browse Age and Form Class, and Utilization

Year(s)	Livestock Use Period Utilization	Date Monitored	Winter Utilization	Date Monitored	Annual Utilization*	Date Monitored	Key Browse Age and Form Class and date monitored**
1991-92	34%	10/ 22/ 1991	10%	3/10/1992	44%	3/10/1992	Age and Form Class- Satisfactory 8/14/1991
1992-93	62%	As of 11/4/92	60.4%	5/ 27 1993	60.4%	5/27/ 1993	Not Recorded
1993-94	32.4%	10/28/1993	14.8%	5/13/1994	47.2%a	5/13/1994	Not Recorded
1997	1%	5/13/1997	No data	No data	No data	No data	No data
1998	6%	5/18/1998	No data	No data	No data	No data	No data
1998	17%	8/12/1998 See Below***	No data	No data	No data	No data	No data
2001-02	9%	5/17/2001	24.8% - 5/17/2001 to 5/15/2002	5/15/2002	33.8%	5/15/2002	Age and Form Class- Satisfactory 5/15/2002
2005-06	No data	No data	No data	No data	20%	5/22/2006	No Data
2006-07	No data	No data	No data	No data	No data – Active Growth	No data	Age and Form Class- Satisfactory 5/30/2007
2008-09	No data	No data	No data	No data	2%	5/28/2009	Age and Form Class- Satisfactory 5/28/2009
2009-10	No data	No data	No data	No data	No data – Active Growth	No data – Active Growth	Age and Form Class- Satisfactory 6/29/2010
2011-12	No data	No data	No data	No data	No data – Active Growth	No data – Active Growth	Age and Form Class- Satisfactory 5/16/2012

\*Livestock Use Period Utilization is generally livestock and incidental summer deer use of current year's growth on this deer winter range per noted monitoring date. Winter utilization is generally mule deer and other potential big game winter use monitored, as possible, prior the start of the current year's growing season as measured in the early spring. The spring and early summer reading at the end of cattle season-of-use period forms the base measurement for any additive winter and spring utilization reading. Annual utilization is combined summer, winter and spring utilization from the preceding year's growing season monitored the following spring prior to start of current year's growth.

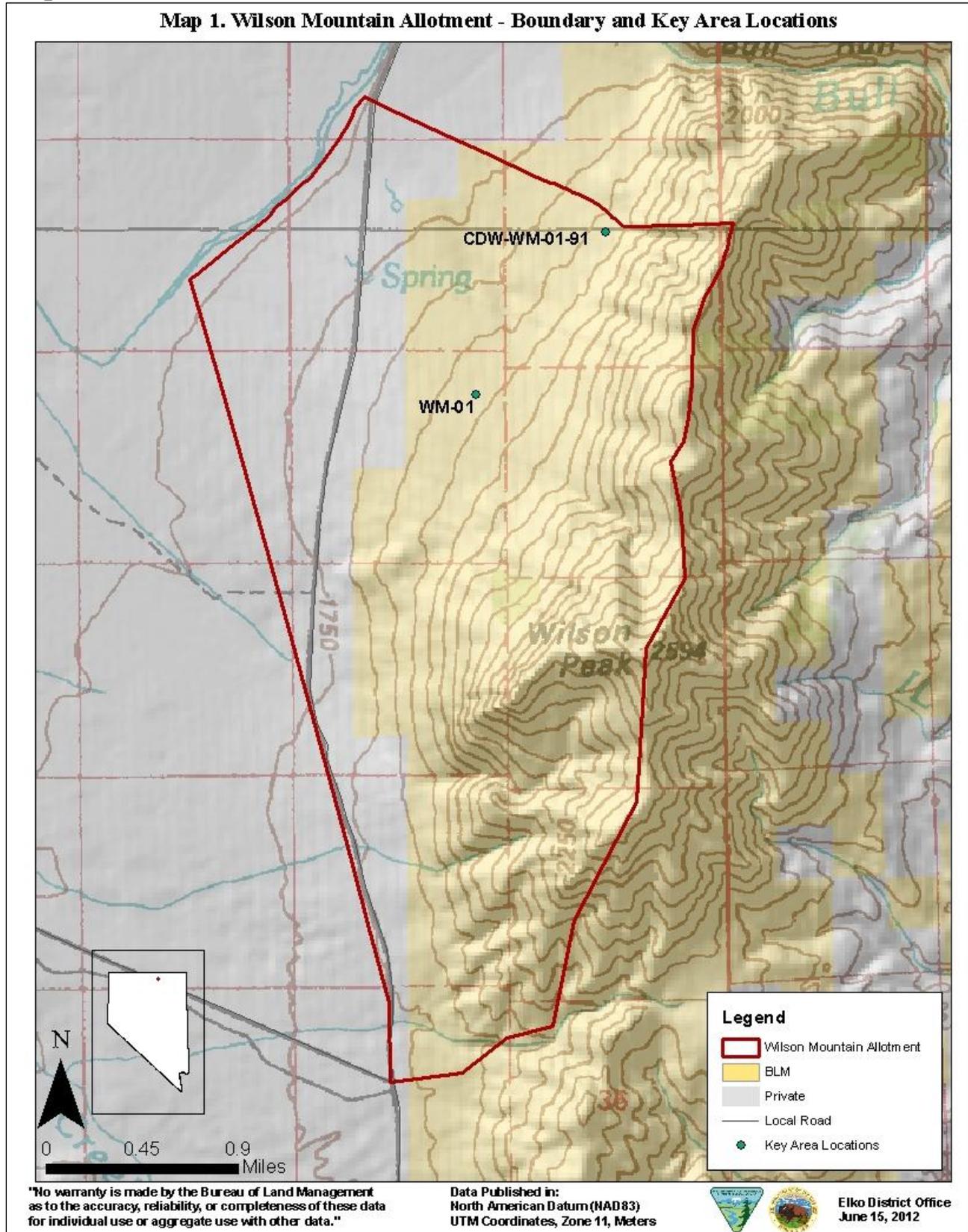
\*\* Key Browse Age and Form Class: When Big Game Habitat Condition Trend Monitoring is completed in the summer during the active bitterbrush leader growth period, it is often difficult to monitor utilization. Therefore, form class is monitored which shows degrees of hedging on previous year's woody leader growth. Age Class: When live seedlings and young plants combined outnumber decadent plants, the age class is satisfactory. Form Class: When little and moderately-hedged plants outnumber severely hedged, unavailable and dead plants, the form class is satisfactory.

\*\*\*Per August 18, 1998 signed Memorandum: "Petan Company of Nevada was authorized TNR use on the Wilson Mountain Allotment in the North Pasture from 6/5 to 7/15."

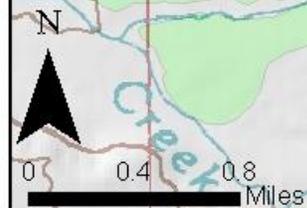
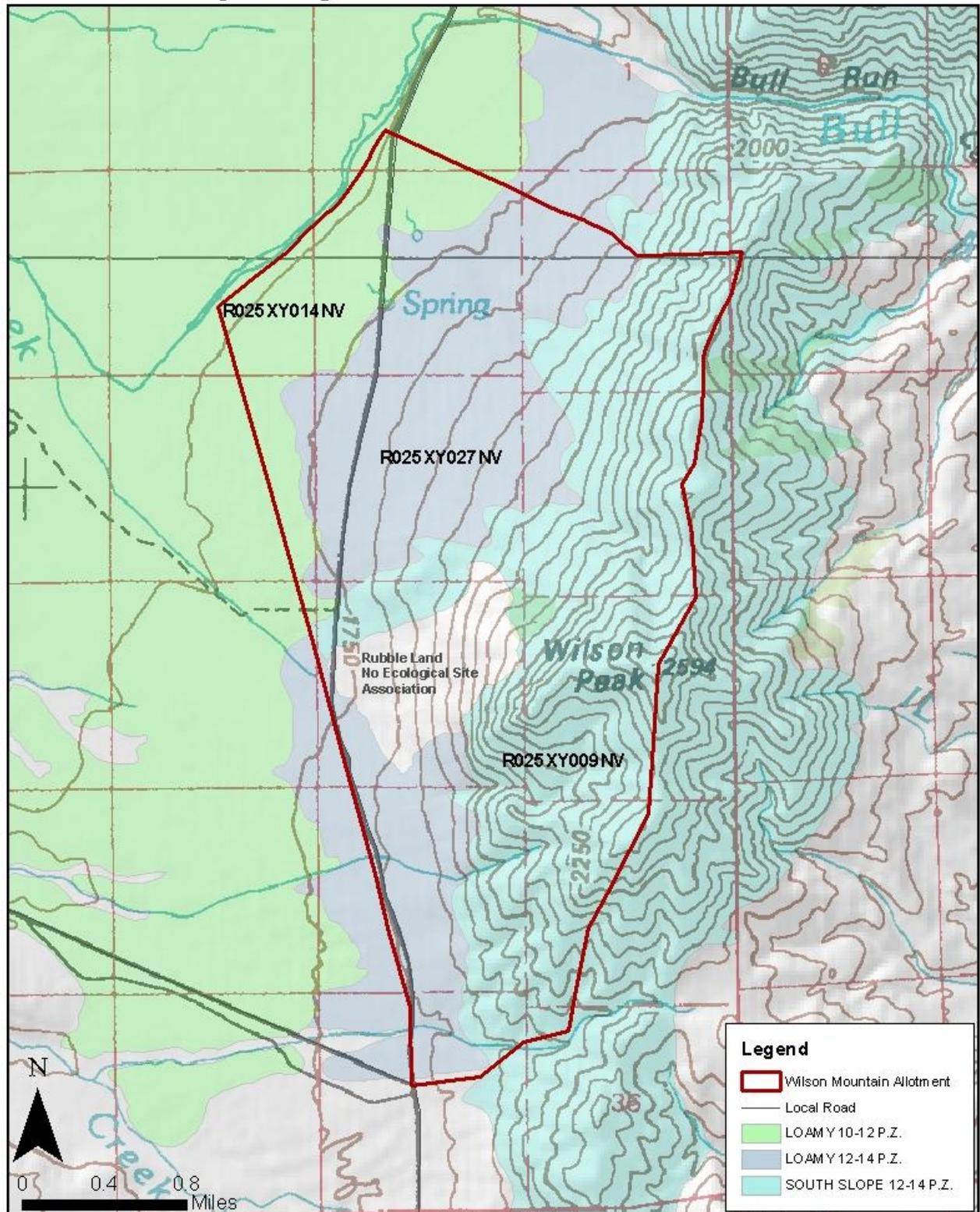
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Maps

Map 1. Wilson Mountain Allotment - Boundary and Key Area Locations



Map 2. Ecological Sites found at the Wilson Mountain Allotment



**Legend**

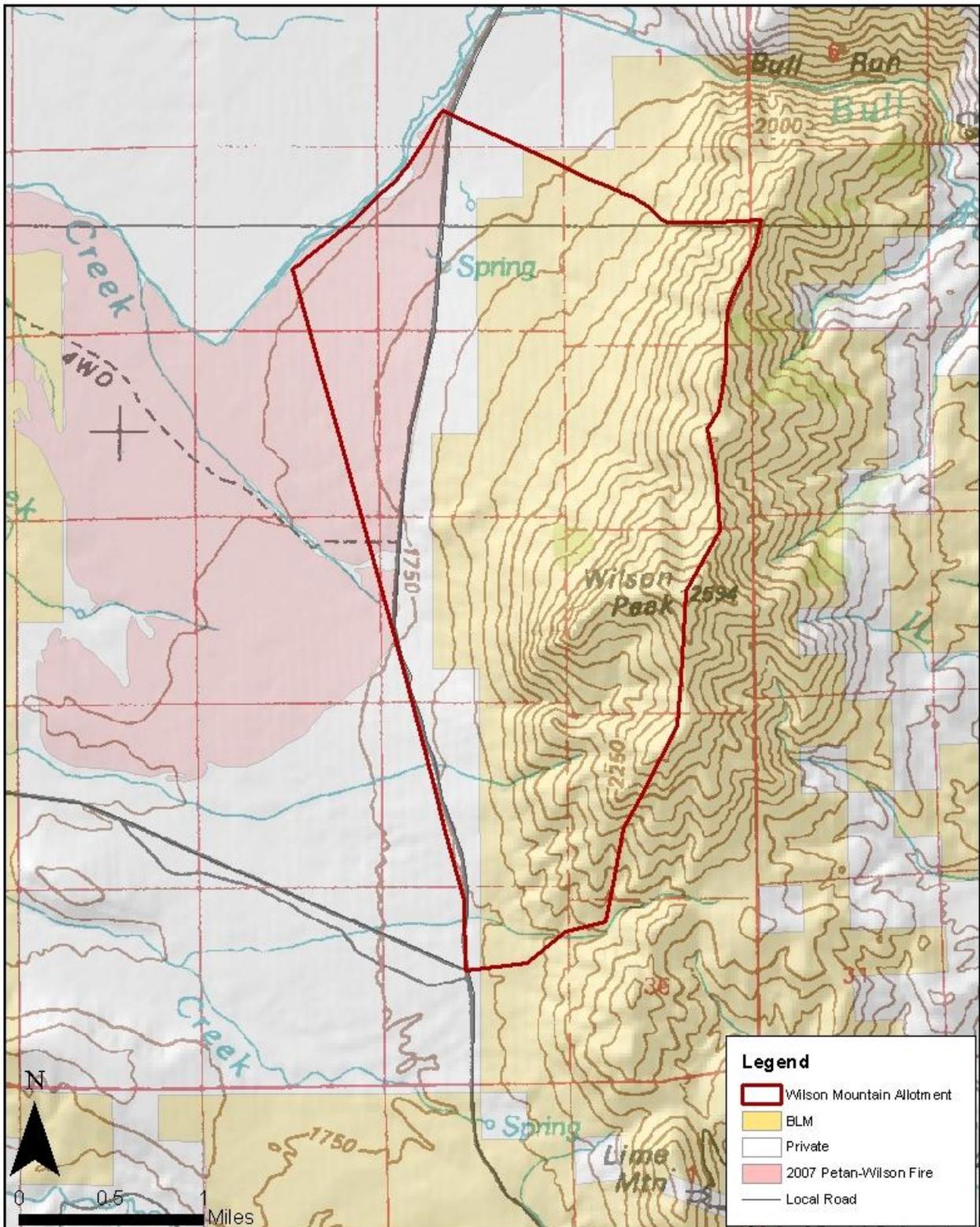
- Wilson Mountain Allotment
- Local Road
- LOAMY 10-12 P.Z.
- LOAMY 12-14 P.Z.
- SOUTH SLOPE 12-14 P.Z.

"No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data."

Data Published in:  
North American Datum (NAD83)  
UTM Coordinates, Zone 11, Meters

Elko District Office  
June 15, 2012

Map 3. Wilson Mountain Allotment - 2007 Petan-Wilson Fire Area Boundary



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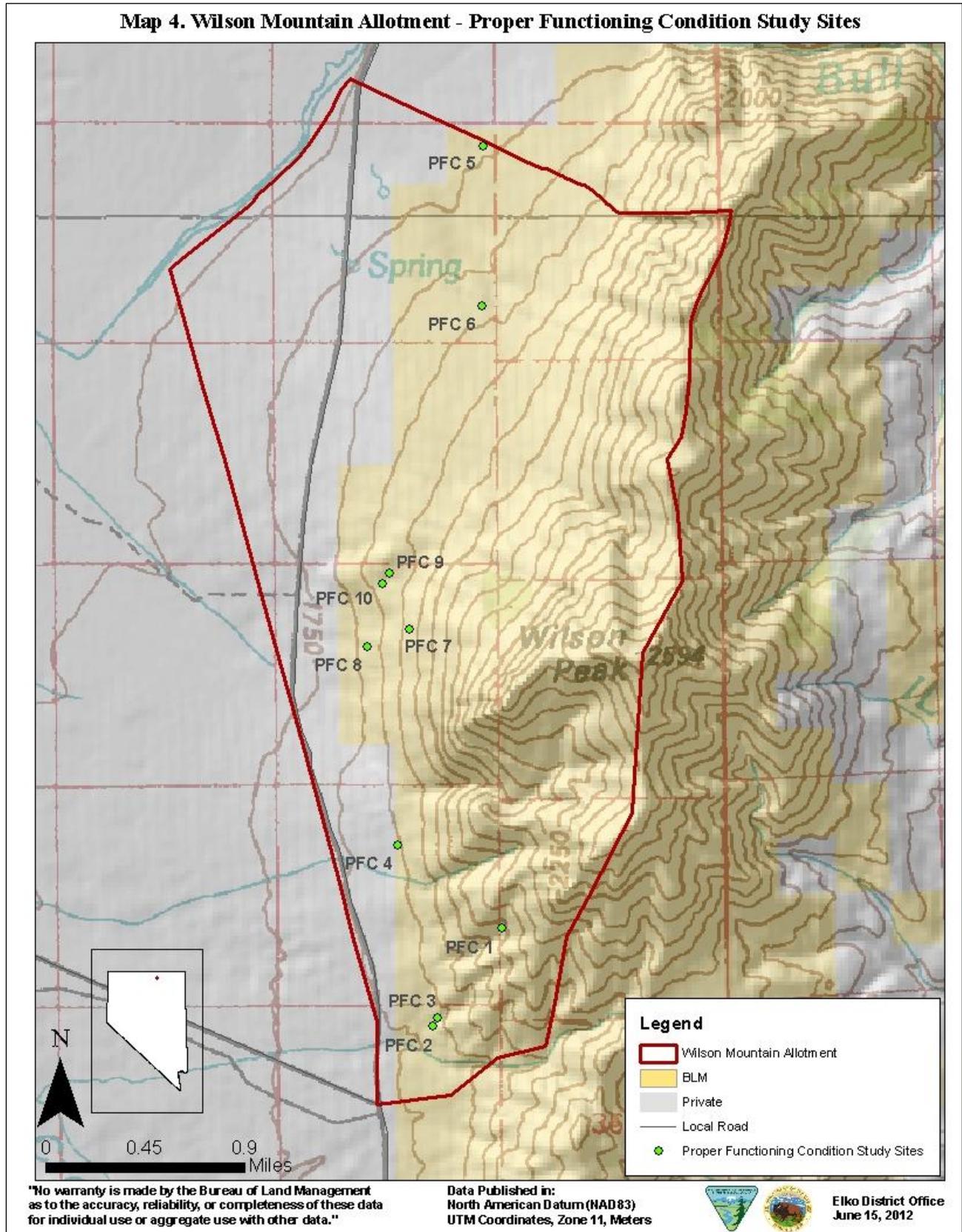
Data Published in:  
North American Datum (NAD83)  
UTM Coordinates, Zone 11, Meters



Elko District Office  
June 15, 2012

# Wilson Mountain Allotment Standards and Guidelines Assessment

**Map 4. Wilson Mountain Allotment - Proper Functioning Condition Study Sites**



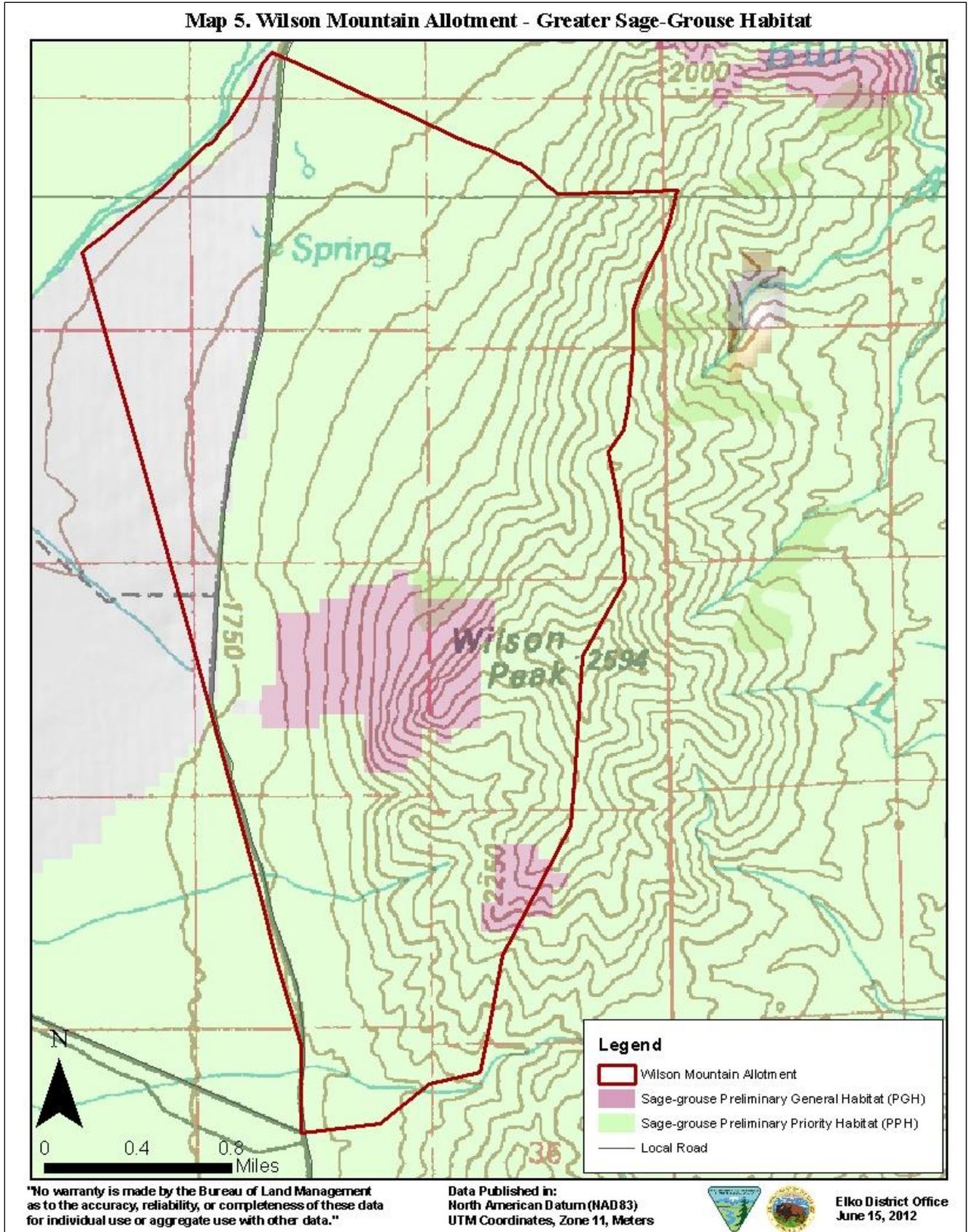
"No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data."

Data Published in:  
North American Datum (NAD83)  
UTM Coordinates, Zone 11, Meters



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June 15, 2012

Map 5. Wilson Mountain Allotment - Greater Sage-Grouse Habitat



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