

BUREAU OF LAND MANAGEMENT

**ELKO DISTRICT
Tuscarora Field Office**

Hog Tommy Allotment

**DRAFT
NORTHEASTERN GREAT BASIN
STANDARDS AND GUIDELINES FOR
RANGELAND HEALTH ASSESSMENT**

Elko District, Nevada

Tuscarora Field Office

**July 2009
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DRAFT
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ASSESSMENT
2009

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I. Introduction

The Bureau of Land Management (BLM) grazing regulations at 43 CFR 4130.3-1(c) require that grazing permits issued by the BLM contain terms and conditions that ensure conformance with BLM regulations at 43 CFR 4180, which are the regulations under which the *Northeastern Great Basin Standards and Guidelines for Grazing Administration (1997)* were developed. Recently, the Tuscarora Field Office completed an assessment of the achievement of these standards on the Hog Tommy Allotment. The results of this assessment are presented in this report. This assessment will serve to inform the BLM's determination as to whether these standards are being met, and, if they are not met, whether existing grazing management practices contribute to their lack of attainment. The approved standards for rangeland health are as follows:

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: Wild horses and burros exhibit characteristics of a healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover, and living space for wild horses and burros and maintain historic patterns of habitat use.

This assessment does not include an assessment of Standard 2 (Riparian and Wetland Sites) or Standard 5 (Healthy Wild Horse and Burro Populations) because there are no riparian or wetland sites on public lands, and there are no wild horse herd management areas in this allotment.

II. Allotment Description, Resource Values, and Uses

The Hog Tommy Allotment is located approximately 10 miles east of Elko, NV. See Map 1. Elevations in the allotment range from 5,500 to 5,700 feet above sea level. Topography in the allotment is generally flat, with low ridges and shallow swales. The allotment contains approximately 2,000 acres of land, almost all of which are public.

The Elko Resource Management Plan categorized the Hog Tommy Allotment as a class “I”, or Improve, allotment. Characteristics of Category I allotments were:

- Existing range improvements are inadequate. Redesign and/or removal of existing projects and development of new ones is required.
- The potential is moderate to high for a positive economic return on public investment for potential new range improvements and vegetative manipulations. There is potential for high cost effectiveness.
- There are one or more major resource conflicts present and they are responsive to or correctible through management.
- The land ownership objective states that when called for in the planning system, the public lands will be retained/consolidated to meet future management goals.
- Livestock distribution is poor to fair. Not all of the areas are being used proportionately. The current level of use by all grazing animals may exceed what the resource can support.
- The present activity plan if implemented is deficient and requires modification to resolve resource conflicts such as range improvements. There are physical problems that inhibit implementation of a new plan at the present time if one is required.
- The current ecological range and watershed condition is unsatisfactory. The primary concern is with stabilizing any downward trends and improving them where cost effective. The average climax potential is moderate to high.

The RMP placed this allotment in the “I” category due to high amounts of sagebrush and rabbitbrush in certain areas of the allotment contributing to lower ecological status.

The allotment is nominally divided into two pastures, the North Pasture and the South Pasture, both of which are vegetated with native plant communities. See Map 2. The North Pasture has no water sources, and as such the allotment is operated as a single pasture. Vegetation in this pasture is dominated by sagebrush and native bunchgrasses, predominately Western wheatgrass (*Agropyron smithii*), Sandberg’s Bluegrass (*Poa secunda*), bottlebrush squirreltail (*Sitanion hystrix*), Thurber’s Needlegrass (*Stipa thurberiana*), needle and thread grass (*Stipa comata*), Great Basin wildrye (*Elymus cinereus*) and Indian ricegrass (*Oryzopsis hymenoides*). The only water in the allotment is found at a trough fed by a pipeline that comes off of private land located inside the southern edge of the allotment in the South Pasture. See Map 2 for the location of water developments.

The BLM completed an allotment evaluation for this allotment in 1995. The findings of the evaluation resulted in a Final Multiple Use Decision (FMUD) issued on 29 November 1999. The authorized season of use for the allotment is currently April 15 to October 31 annually. The FMUD did not lay out any specific grazing system, but did specify that a system of rotating livestock through the allotment by turning water troughs on and off would be implemented to improve livestock distribution and forage utilization and to provide systematic deferment. However, the proposed pipeline extensions have not been built, and this part of the FMUD remains unimplemented.

Total permitted use amounts to 211 Animal Unit Months (AUMs). The allotment is grazed by the Kennedy family.

Utilization objectives for the key species in the allotment are set as follows:

Table 1.

Key Species	Utilization Objective
Native Perennial Grasses	Not to exceed 50% on the key species

The Hog Tommy Allotment in association with the surrounding habitat in the Spring Creek/Lamoille area may provide habitat for a multitude of bird, mammal, reptile, and amphibian species that commonly or occasionally inhabit sagebrush, aspen, and mountain mahogany habitats throughout the northeastern Nevada. A list of species that potentially inhabit the types of habitats found in this allotment are presented in Appendices A through F. Some of the species are duplicated from list to list, as different sources were used to develop the lists. The BLM developed these lists from multiple sources and considers them to be a representation of the species most likely to be present on or transitory through this allotment.

Big Game Species

The entire allotment is identified as mule deer crucial summer range as well as antelope summer range.

Federally Listed and Candidate Species

There are no known threatened or endangered species present or known to exist in the Hog Tommy Allotment. The gray wolf (endangered) and the black bear (threatened) are potential transients (at best) to this District. The gray wolf is listed on the Nevada Department of Wildlife Master List for northeastern Nevada as being "locally extirpated." The black bear is on the BLM Nevada Elko District Mammal List with the notation that "occasionally one will wander in from Idaho." Neither has been recently documented on the district. The yellow-billed cuckoo is a candidate species that may occur in this portion of the Elko District, however none have been documented in the allotment. Furthermore, there is no appropriate habitat (cottonwood-willow forest) for yellow-billed cuckoos located within or in close proximity to the allotment. Another candidate species that potentially inhabit this portion of the District is the Columbian spotted frog. None have been documented by BLM in the allotment. The Nevada Natural Heritage Program identified Columbian spotted frog as a species that may have

potential habitat within 2 km of the allotment. Habitat suitable for these species only exists in riparian areas on private land outside of the allotment.

On July 9, 2007, the bald eagle was removed (“de-listed”) from the list of threatened and endangered species. BLM is coordinating with the Nevada Department of Wildlife (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 will continue to be protected under the Bald and Golden Eagle Protection Act (BGEPA) 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 Service clarified its regulations implementing the BGEPA and published the National Bald Eagle Management Guidelines. The 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 draft post-delisting bald eagle monitoring plan. These documents and more information about the bald eagle are available on the Service’s website at <http://www.fws.gov/migratorybirds/baldeagle.htm>.

Though not expected to use the habitat types found in the allotment heavily for foraging or other behaviors, transient-foraging could occur during the winter months. Additionally, bald eagles may use areas surrounding the allotment which contain quality winter foraging areas. Suitable habitat on uplands, irrigated lands and riparian areas is widely dispersed over tens of thousands of acres throughout the Elko District.

Special Status Species

There are 31 bird, mammal, reptile, and amphibian species designated as Nevada BLM Sensitive Species which potentially use the habitat types present in this allotment. See Appendix G for a complete list of these species.

Greater Sage Grouse

The Hog Tommy Allotment is within the South Fork Sage Grouse Population Management Units (PMU) in Northeastern Nevada considered under the Elko Strategy by the Northeastern Nevada Stewardship Group Inc. (NNSG). The entire allotment is sage grouse late summer habitat (see Map 3). There are no sage grouse leks (breeding display areas) within the allotment boundary. The nearest lek is approximately 3.7 miles from the northwest corner of the allotment. All areas of the allotment potentially provide sage grouse habitat. Sage grouse use this allotment primarily as late summer habitat. Wyoming big sagebrush within the allotment provides forage and cover for adult sage grouse and late brood rearing areas for young.

Pygmy rabbits

Pygmy rabbits have been petitioned for listing as threatened or endangered under the Endangered Species Act of 1973. On January 8, 2008, the U.S. Fish and Wildlife Service announced a 90-Day finding in the Federal Register indicating that, “... the petition presents substantial scientific or commercial information indicating that listing the pygmy rabbit may be warranted.” The Finding identifies the need to conserve pygmy rabbit

habitat. Pygmy rabbits are found in a variety of vegetation types, including big sagebrush, that are suitable for creating their burrow system. Though no known formal surveys have been completed on the allotment, pygmy rabbits have been reported by BLM personnel approximately 9 miles away in the Lamoille Valley area. The sites were within stands of big sagebrush.

Bats

Sixteen BLM sensitive bat species have been documented in the Elko District. The allotment has the potential to provide habitat for a variety of these species (Appendices B through D). Although no surveys for bats have been conducted in the allotment, the potential exists for bat use of the allotment for foraging. Bats occur in a variety of habitats in eastern Nevada, which include spring riparian areas, canyons, coniferous forests (including juniper), and deciduous forests. Wetlands and surface water associated with springs, reservoirs, sagebrush rangelands and artificial structures provide habitat for some or all of these species. The majority of the allotment is relatively open and natural roost sites are marginalized to the Ruby Mountains to the east. There are numerous structures and homesteads throughout the Lamoille and Spring Creek areas where bats can roost on a temporary or permanent basis. Foraging areas are provided on the allotments' native uplands and in riparian areas located in the general area. Bats could transient-forage throughout the area.

Improvement or maintenance of range conditions, including maintenance of some sagebrush cover, would improve foraging habitat conditions for these species of bats as a variety of insects are associated with sagebrush habitats.

Raptors

Ten diurnal raptor and owl species are present in the Elko District with the potential to occur in the allotment, based upon habitat types present. The following have been documented nesting within the District: turkey vulture, northern harrier, Cooper's hawk, northern goshawk, ferruginous hawk, golden eagle, American kestrel, prairie falcon, and burrowing owl. Rough-legged hawks may winter in the allotment.

Migratory Birds

On January 11, 2001, President Clinton signed the Migratory Bird Executive Order 13186 entitled "Responsibilities of Federal Agencies to Protect Migratory Birds." It directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act and to conserve migratory birds. Pursuant to this act, special attention is given to birds, both migratory and resident, that may occupy habitat in this allotment.

According to the BLM Elko District Bird List, there are approximately 246 species that could inhabit the District area of jurisdiction on a seasonal or yearlong basis (BLM, 1999). Careful review of the Nevada Breeding Bird Atlas and widely accepted range maps reveal several more species that may possibly inhabit the District. The allotment includes habitat for many of these bird species on a seasonal or yearlong basis. Bird species likely to use the allotment and the habitat(s) where they are likely to be found are

included in Appendix A. This listing is modified from the 1999 Nevada Partners in Flight Bird Conservation Plan.

Recreational Use

No established recreational areas exist on the allotment. However, the allotment does receive dispersed recreational use due to the close proximity to the communities of Spring Creek and Lamoille. Most of this recreational activity consists of off road vehicle use (all terrain vehicles, dirt bikes, and four wheel drive vehicles) and target practice.

III. Summary of Available Monitoring Data

A. Indicators and Studies Summary

1. Key Area Utilization

A key area is a relatively representative site within a use area selected to monitor trends in plant community or soil. A key area is monitored to determine how management and natural factors are affecting similar areas in the allotment. The use levels summarized below represent the highest levels off annual use on key forage species at the key areas in the allotment.

Key Area #1- South Pasture		
Key Species: thickspike wheatgrass (AGDA), Sandberg’s bluegrass (POSE)		
Year	Thickspike wheatgrass	Sandberg’s bluegrass
1986	NA	35%
1987	11%	8%
1988	8%	10%
1989	17%	0%
1990	28%	17%
1991	8%	3%
1992	48%	NA
1993	12%	7%
1994	15%	29%
1995	5%	3%
1998	0%	4%
1999	10%	20%

Key Area #2- North Pasture			
Key Species: thickspike wheatgrass (AGDA), Sandberg's bluegrass (POSE), Thurber's needlegress (STTH2)			
Year	Thickspike wheatgrass	Sanberg's bluegrass	Thruber's needelgrass
1989	34%	NA	34%
1993	30%	25%	31%
1994	10%	5%	9%
1995	15%	29%	15%
1998	2.5%	4.5%	6%
1999	17%	18%	30%

Key Area 1- Slight use on western wheatgrass/thickspike wheatgrass, with abundant rabbit pellets present. Difficult to tell how much use by rabbits compared to cows. Sandberg's bluegrass and cheatgrass common with patches of native bunchgrasses.

Key Area 2- None to slight use on bluebunch wheatgrass, Thurber's needlegress, bottlebrush squirreltail, Great Basin wildrye, and Sandberg's bluegrass.

2. Actual Use

Actual use data is provided annually by the permittee, by allotment and by pasture to determine the amount of AUMs used by livestock during each grazing year. Actual use data is summarized by year in the table below. In years not listed actual use was not submitted.

Actual Use: Hog Tommy	
Year	Actual Use (AUMs)
1975	134
1977	165
1981	181
1982	167
1983	168
1984	161
1985	167
1986	85
1987	155
1988	156
1989	183
1990	133
1991	157
1992	161
1993	170
1994	164

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1995	164
1996	168
1998	168
1999	151
2000	152
2001	145
2003	116
2004	170
2005	164
2007	190

3. Weight-Estimate Production Summary

Weight-estimate production data measures the vegetative production at a site in relation to its site potential. The total dry weight production at key areas in the allotment is summarized in the table below.

Production Data: Hog Tommy			
Species	Total Dry Weight Production (lbs./acre)		
	1986	1990	1998
Key Area #1- South Pasture			
Wyoming big sagebrush	2,218.38	598.78	
Sandberg's bluegrass	26.22	47.75	
Cheatgrass	113.5	364.65	
Spiny phlox	37.34	20.44	
Blue-eyed Mary	24.9		
Onion	1.26		
Lupine	194.87	28.11	
Pale agoseris	2.82		
Thickspike wheatgrass	76.17	20.51	
Biscuitroot	4.45		
Bur buttercup	3.79		
Douglas rabbitbrush	30.72	27.74	
Bottlebrush squirreltail		17.32	
Perennial forb		1.8	
Key Area #2- North Pasture			
Sandberg's bluegrass			80.12
Bottlebrush squirreltail			105.93
Thurber's			14.31

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needlegrass			
Great Basin wildrye			0.92
Cheatgrass			468
Thickspike wheatgrass			71.56
Spiny phlox			212.9
Annual forbs			138.02
Onion			2.20
Miklvetch			Trace
Mustard			3.38
Pepperweed			1.23
Lupine			27.97
Perennial forbs			Trace
Blue-eyed Mary			6.59
Wyoming big sagebrush			810.84
Douglas rabbitbrush			285.14

4. Line Intercept Cover

Line intercept cover is a method for measuring the percentage of ground surface covered by vegetation and other site components. The point sampling cover collected at the key areas in the allotment is summarized in the table below.

Line Intercept Cover				
Species	Composition by Species		Percent Cover	
	20 July 1989	12 June 2008	20 July 1989	12 June 2008
Spiny phlox	13.6%	7.7%	3.3%	5.0%
Thickspike wheatgrass	2.1%	3.7%	0.5%	2.4%
Wyoming big sagebrush	75.1%	22.2%	18.0%	14.4%
Sandberg's bluegrass	6.3%	18.3%	1.5%	11.9%
Lupine	2.1%	21.4%	0.5%	13.9%
Cheatgrass	0.9%	17.2%	0.2%	11.2%
Bladderpod	0.0%	7.1%	0.0%	4.6%
Douglas rabbitbrush	0.0%	2.3%	0.0%	1.5%

5. Wildlife Studies

Wildlife studies are methods used to measure plant community characteristics and condition in relation to optimum wildlife habitat characteristics to determine habitat suitability.

Additional Wildlife Studies		
	July 20, 1989	June 12, 2008
Horizontal Cover	60.80%	28.38%
Age Class (Wyoming big sagebrush)	Satisfactory	Satisfactory
Form Class (Wyoming big sagebrush)	Satisfactory	Satisfactory
Mule Deer Habitat Condition Rating	Good	Good

6. Indicators of Rangeland Health

On April 29, 2008 an interdisciplinary team of BLM resource specialists visited the Hog Tommy Allotment to evaluate the “Interpreting Indicators of Rangeland Health” as specified in Technical Reference 1734-6, Version 4. The observations led to the following conclusions:

- Soil and Site Stability: observations indicated soils in the Hog Tommy Allotment are stable.
- Hydrologic Function: No departures from expected observed.
- Biotic integrity: The team observed scattered patches of dead sagebrush, likely due to aroga moth infestations from the last several years. Some patches of cheatgrass also observed, with the bulk of them located in and around the patches of dead sagebrush.

IV. Conclusions and Determinations

This section draws conclusions and makes determinations regarding:

- A. Progress towards or attainment of the standards for rangeland health, and
- 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 soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform. **Met.**

Rationale: Landforms present are predominately low rolling hills. The Hog Tommy Allotment lies in the valley floor off the west side of the Ruby Mountains. The dominant soils in the Hog Tommy Allotment are from the Hunnton-Wieland-Hunnton gravelly association soil series. They are positioned on fan piedmont remnants and composed of mixed alluvium influenced by loess and volcanic ash. They are moderately deep to deep and moderately drained with a loam to clay-loam texture. According to the U.S. Natural Resource Conservation Service Nevada site description, the approximate vegetative ground cover of native vegetation appropriate for the Loamy 8 to 10” precipitation zone ecological site ranges between 20% to 30%.

Recent monitoring information including cover data accompanied by field observations indicate that sufficient vegetative cover, litter and rock fragments are present to meet the requirements of this standard given the potential of the sites monitored. Furthermore, the utilization objectives established on both allotments have largely been achieved. There has been some recent loss of sagebrush due to aroga moth infestations, and cheatgrass has become established in and around the dead sagebrush, but these factors are not affecting the stability of the sites. The vegetative cover required to stabilize soils and ensure appropriate infiltration and permeability rates is being maintained in the allotment.

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. **Met.**

Rationale: The evaluation of existing data indicates that this standard is being met in the uplands.

The South Pasture is the only pasture that contains a wildlife key area. Portions of this pasture contain a significant cheatgrass component that, according to the key area, is increasing in density. Cover of sagebrush at the key area decreased according to the line intercept measurements, but visual evidence suggests that canopy cover of sagebrush has increased overall within the pasture. Dominant grass species for the ecological site (particularly bluebunch wheatgrass, Thurber's needlegrass, and bottlebrush squirreltail) are absent from the key area but do exist in other portions of the pasture, as well as in the North Pasture, based upon visual evidence.

Actual use has consistently been 75% or more of permitted use, which has resulted in utilization levels well below the utilization objective of 50% for key species (See Table 1 and point #1 of the Summary of Available Monitoring Data section). Recorded utilization level has been below desired use levels and has resulted in sufficient residual herbaceous vegetation to provide habitat for wildlife species relying upon the habitat values in the allotment. Mule deer habitat condition has remained good, with satisfactory age and form class of the shrubs. The species list displayed in point #6 of the Summary of Available Monitoring Data section indicates the allotment has maintained an exceptional diversity of grasses and forbs. Habitat quality in portions of the allotment, particularly the South Pasture, could be improved by altering the distribution of grazing pressure. However, this would need development of additional water sources in the North Pasture. Based upon monitoring data and site tours, the current grazing system is adequate to maintain wildlife habitat in the allotment.

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

Rationale: Based on the evaluation of existing information pertaining to range improvements and grazing, cultural resources are being recognized within the context of multiple use management in the Hog Tommy Allotment.

Determination

Based on information provided in this assessment, I have determined that all standards are being met and current livestock grazing is in conformance with the standards.

Steve Dondero
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Tuscarora Field Office

Date

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Appendix A: Birds by habitat type in the Hog Tommy Allotment. This list was developed from the BLM Elko Bird List, the Nevada Breeding Bird Atlas, the range maps in the Sibley Guide to Birds, the April 2005 NDOW Master Species List, and the Nevada Wildlife Action Plan Range Maps, as well as those known to exist in the District. Habitat information is from the Nevada Partners in Flight Bird Conservation Plan.

Species	Sagebrush
Turkey Vulture	F
Northern Harrier	M
Cooper's Hawk	F
Northern Goshawk	F
Ferruginous Hawk	B
Rough-legged Hawk	F
Golden Eagle	F
American Kestrel	F
Prairie Falcon	F
Gray Partridge	B
Chuckar	B
Columbian Sharp-tailed Grouse	B
Greater Sage Grouse	B
Mountain Quail	B
California Quail	B
Burrowing Owl	B
Common Nighthawk	B
Common Poor-will	B
Rufous Hummingbird	M
Gray Flycatcher	B
Loggerhead Shrike	B
Horned Lark	B
Bushtit	B
Mountain Bluebird	F
Sage Thrasher	B
Black-throated Sparrow**	B
Sage Sparrow	B
Brewer's Sparrow	B
Vesper Sparrow	B
Lark Sparrow**	B
Snow Bunting***	I
Western Meadowlark	B
Brown-headed Cowbird	B
Black Rosy Finch	W
American Goldfinch	M

* B = Breeding, F = Feeding, I = Incidental, M = Migration, W = Wintering.

** These were not on the BLM Elko Field Office Bird List but were documented as breeding in the district by the Great Basin Bird Observatory in their Atlas of the Breeding Birds of Nevada.

*** This species was not on the BLM Elko Field Office Bird List but is shown in the Sibley Guide to Birds as having a winter range that overlaps the Elko District.

Appendix B: Mammals by life zone in the Hog Tommy Allotment. This list was developed from the BLM Elko Mammal List, the April 2005 NDOW Master Species List, and the Nevada Wildlife Action Plan Range Maps, as well as those known to exist in the District. Data on life zones are from Hall's Mammals of Nevada.

Species	Upper Sonoran (Sagebrush)
Merriam's Shrew	X
Vagrant Shrew	X
Water Shrew	X
Preble's Shrew	X
Pallid Bat	X
Townsend's big-eared Bat	X
Big Brown Bat	X
Spotted Bat	X
Silver-haired Bat	X
Western Red Bat*	X
Hoary Bat	X
Western Small-footed Myotis	X
Little Brown Bat	X
Fringed Myotis	X
Long-legged Myotis	X
Yuma Myotis*	X
Western Pipistrelle*	X
Black-tailed Jack Rabbit	X
Nuttall's Cottontail	X
Desert Cottontail	X
Pygmy Rabbit	X
Yellow-bellied Marmot	X
Townsend's Ground Squirrel	X
Wyoming Ground Squirrel	X
Belding's Ground Squirrel	X
White-tailed Antelope Squirrel	X
Least Chipmunk	X
Townsend's Pocket Gopher	X
Botta's Pocket Gopher*	X
Southern Pocket Gopher*	X
Little Pocket Mouse	X
Great Basin Pocket Mouse	X
Dark Kangaroo Mouse	X
Ord's Kangaroo Rat	X
Chisel-toothed Kangaroo Rat	X
Western Harvest Mouse	X
Canyon Mouse	X
Deer Mouse	X
Brush Mouse**	X
Pinon Mouse	X
Northern Grasshopper Mouse	X
Desert Woodrat	X
Montane Vole	X
Sagebrush Vole	X
Muskrat	X
Beaver	X
Black Rat	X

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House Mouse	X
Porcupine	X
Coyote	X
Red Fox	X
Gray Fox	X
Kit Fox	X
Raccoon	X
Ringtail	X
Long-tailed Weasel	X
Mink	X
River Otter	X
Badger	X
Western Spotted Skunk	X
Striped Skunk	X
Mountain Lion	X
Bobcat	X
Mule Deer	X
Pronghorn	X
Bighorn Sheep	X
Elk	X

* These were not on the BLM Elko Field Office Mammal List but were on the April 2005 NDOW Master List.

** This species was not on the BLM Elko Field Office Mammal List but is potentially on the District according to Nevada Wildlife Action Plan.

Appendix C: Mammals by vegetation association in the Hog Tommy Allotment. This list was developed from the BLM Elko Mammal List, the April 2005 NDOW Master Species List, and the Nevada Wildlife Action Plan Range Maps, as well as those known to exist in the District. Data on plant communities is from the USDI BLM Technical Note Distribution of Mammals, Reptiles, and Amphibians by BLM Physiographic Regions and A.W. Kuchler's Associations for the Eleven Western States. X = Habitat Association was listed. Y = Habitat Association not actually listed, but referred to in the narrative for the species.

Species	Great Basin Sagebrush (38)	Sagebrush Steppe (55)
Merriam's Shrew	X	X
Preble's Shrew		X
Pallid Bat		X
California Myotis*		X
Yuma Myotis*		X
Western Pipistrelle*	X	
Brazilian Free-tailed Bat	X	
White-tailed Jack Rabbit	X	
Black-tailed Jack Rabbit	X	X
Nuttall's Cottontail	X	X
Desert Cottontail	X	
Pygmy Rabbit	X	X
Townsend's Ground Squirrel		
Wyoming Ground Squirrel	X	X
Least Chipmunk	X	X
Townsend's Pocket Gopher	X	X
Little Pocket Mouse	X	
Great Basin Pocket Mouse	X	X
Dark Kangaroo Mouse	X	
Ord's Kangaroo Rat	X	X
Chisel-toothed Kangaroo Rat	X	
Western Harvest Mouse		X
Canyon Mouse	X	
Deer Mouse		Y
Pinon Mouse		X
Northern Grasshopper Mouse		X
Desert Woodrat	X	
Bushy-tailed Woodrat		X
Montane Vole		X
Lont-tailed Vole		X
Sagebrush Vole	X	X
Porcupine		X
Gray Wolf*		X
Coyote	Y	Y
Gray Fox	X	
Kit Fox	X	
Western Spotted Skunk	Y	Y
Striped Skunk	Y	Y
Bobcat	Y	Y

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Mule Deer	Y	Y
Pronghorn		X
Bison*		X

* These were not on the BLM Elko Field Office Mammal List but were on the April 2005 NDOW Master List.

** This species was not on the BLM Elko Field Office Mammal List but is potentially on the District according to Nevada Wildlife Action Plan.

Appendix D: Bats by vegetation type in the Hog Tommy Allotment. This list was put together from species information in the 2006 Nevada Bat Conservation Plan and may not be a complete list of potential habitats.

Species	Sagebrush	Comments
Pallid Bat	X	
Townsend's big-eared Bat	X	
Big Brown Bat	X	
Spotted Bat	X	
California Myotis*		Variety of habitats
Western Small-footed Myotis	X	
Long-eared Myotis	X	
Long-legged Myotis	X	
Yuma Myotis*	X	
Western Pipistrelle*	X	
Brazilian Free-tailed Bat		Variety of habitats

* These were not on the BLM Elko Field Office Mammal List but were on the April 2005 NDOW Master List.

Appendix E: Reptiles and amphibians by vegetation association in the Hog Tommy Allotment. This list was developed from the BLM Elko Reptiles and Amphibians List, the April 2005 NDOW Master Species List, and the Nevada Wildlife Action Plan Range Maps, as well as those known to exist in the District. Data on plant communities is from the USDI BLM Technical Note Distribution of Mammals, Reptiles, and Amphibians by BLM Physiographic Regions and A.W. Kuchler's Associations for the Eleven Western States. X = Habitat Association was listed. Y = Habitat Association not actually listed, but referred to in the narrative for the species.

Species	Great Basin Sagebrush (38)	Sagebrush Steppe (55)
Tiger Salamander		X
Great Basin Spadefoot	X	X
Western Toad	X	X
Woodhouse's Toad		X
Pacific Treefrog	X	X
Great Basin Collared Lizard*	X	
Desert Collared Lizard	X	
Long-nosed Leopard Lizard	X	X
Western Fence Lizard	X	
Sagebrush Lizard	X	X
Side-blotched Lizard	X	X
Desert Horned Lizard	X	
Short-horned Lizard		X
Greater Short-horned Lizard**	X	
Western Skink	X	X
Western Whiptail	X	X
Racer	X	X
Striped Whipsnake	X	X
Great Basin Gopher Snake**	X	X
Common Kingsnake**	X	
Gopher Snake	X	X
Long-nosed Snake	X	
Common Garter Snake		X
Western Terrestrial Garter Snake	Y	Y
Ground Snake	X	X
Night Snake	X	X
Western Rattlesnake		X

* This species was not on the BLM Elko Field Office Reptile and Amphibian List but is potentially on the District according to Nevada Wildlife Action Plan.

** These were not on the BLM Elko Field Office Reptile and Amphibian List but were on the April 2005 NDOW Master List.

Appendix F: Vertebrates by key habitats in the Hog Tommy Allotment. This was developed from species shown in the Nevada Wildlife Action Plan to inhabit the District as well as those from BLM Elko District Lists, the April 2005 NDOW Master Species List, and widely accepted range maps. Key Habitat Types are from the Nevada Wildlife Action Plan.

Species	Sagebrush
Great Basin Collared Lizard*	X
Long-nosed Leopard Lizard	X
Pygmy Short-horned Lizard	X
Desert horned Lizard	X
Greater Short-horned Lizard**	X
Merriam's Shrew	X
Preble's Shrew	X
Western Small-footed Myotis	X
Pygmy Rabbit	X
Wyoming Ground Squirrel	X
Dark Kangaroo Mouse	X
Sagebrush Vole	X
Kit Fox	X
Mule Deer	X
Greater Sage Grouse	X
Columbian Sharp-tailed Grouse	X
Mountain Quail	X
Ferruginous Hawk	X
Western Burrowing Owl	X
Short-eared Owl	X
Loggerhead Shrike	X
Brewer's Sparrow	X
Sage Sparrow	X

* These were not on the BLM Elko Field Office Species Lists but are potentially on the District according to Nevada Wildlife Action Plan.

** These were not on the BLM Elko Field Office Species Lists but were on the April 2005 NDOW Master List.

*** These were not on the BLM Elko Field Office Species Lists but were documented as breeding in the district by the Great Basin Bird Observatory in their Atlas of the Breeding Birds of Nevada.

Appendix G: BLM Sensitive Terrestrial Vertebrate Species in the Hog Tommy Allotment. This list was developed by selecting those species in the previous appendices that are on the current BLM Sensitive Species List.

Birds

Common Name	Genus	Species
Northern Goshawk	<i>Accipiter</i>	<i>gentilis</i>
Ferruginous Hawk	<i>Buteo</i>	<i>regalis</i>
Golden Eagle	<i>Aquila</i>	<i>chrysaetos</i>
Prairie Falcon	<i>Falco</i>	<i>mexicanus</i>
Columbian Sharp-tailed Grouse	<i>Tympanuchus</i>	<i>phasianellus</i>
Greater Sage Grouse	<i>Centrocercus</i>	<i>urophasianus</i>
Mountain Quail	<i>Oreortyx</i>	<i>pictus</i>
Burrowing Owl	<i>Athene</i>	<i>cunicularia</i>
Loggerhead Shrike	<i>Lanius</i>	<i>ludovicianus</i>
Juniper Titmouse	<i>Baeolophus</i>	<i>ridgwayi</i>
Vesper Sparrow	<i>Pooecetes</i>	<i>gramineus</i>
Black Rosy Finch	<i>Leucosticte</i>	<i>atrata</i>

Mammals

Common Name	Genus	Species
Preble's Shrew	<i>Sorex</i>	<i>preblei</i>
Pallid Bat	<i>Antrozous</i>	<i>pallidus</i>
Townsend's big-eared Bat	<i>Corynorhinus</i>	<i>townsendii</i>
Big Brown Bat	<i>Eptesicus</i>	<i>fuscus</i>
Spotted Bat	<i>Euderma</i>	<i>maculatum</i>
Silver-haired Bat	<i>Lasiorycteris</i>	<i>noctivagans</i>
Western Red Bat	<i>Lasiurus</i>	<i>blossevillii</i>
Hoary Bat	<i>Lasiurus</i>	<i>cinereus</i>
California Myotis	<i>Myotis</i>	<i>californicus</i>
Western Small-footed Myotis	<i>Myotis</i>	<i>ciliolabrum</i>
Little Brown Bat	<i>Myotis</i>	<i>lucifugus</i>
Fringed Myotis	<i>Myotis</i>	<i>thysanodes</i>
Long-legged Myotis	<i>Myotis</i>	<i>volans</i>
Yuma Myotis	<i>Myotis</i>	<i>yumanensis</i>
Western Pipistrelle	<i>Pipistrellus</i>	<i>hesperus</i>
Brazilian Free-tailed Bat	<i>Tadarida</i>	<i>brasiliensis</i>
Pygmy Rabbit	<i>Sylvilagus</i>	<i>idahoensis</i>
River Otter	<i>Lontra</i>	<i>canadensis</i>

Reptiles

Common Name	Genus	Species
Short-horned Lizard	<i>Phrynosoma</i>	<i>douglassi</i>

Appendix H: BLM Key to Plant Acronyms in the Hog Tommy Allotment.

Key to Plant Acronyms		
Plant Acronym	Species name	Common name
AAFF	-	annual forb
AGCR	<i>Agropyron cristatum</i>	crested wheatgrass
AGDA	<i>Agropyron dasystachym</i>	thickspike wheatgrass
AGGL	<i>Agoseris glauca</i>	pale agoseris
AGSM	<i>Agropyron smithii</i>	Western wheatgrass
AGSP	<i>Agropyron spicatum</i>	bluebunch wheatgrass
ALLIUM	<i>Allium</i> spp.	onion
ARTR	<i>Artemisia tridentata</i>	big sagebrush
ARTRW	<i>Artemisia tridentata</i> var. <i>wyomingensis</i>	Wyoming big sagebrush
ASTRA	<i>Astragalus</i> spp.	milkvetch
Key to Plant Acronyms continued		
BRASS2	<i>Brassica</i> spp.	mustard
BRTE	<i>Bromus tectorum</i>	cheatgrass
CHVI8	<i>Chrysothamnus viscidiflorus</i>	Douglas rabbitbrush
COPA3	<i>Collinsia parviflora</i>	blue-eyed Mary
ELCI2	<i>Elymus cinereus</i>	Great Basin wildrye
LEPID	<i>Lepidium</i> spp.	pepperweed
LESQU	<i>Lesquerella</i> spp.	bladderpod
LOMAT	<i>Lomatium</i> spp.	biscuitroot
LUPIN	<i>Lupinus</i> spp.	Lupine
ORHY	<i>Oryzopsis hymenoides</i>	Indian ricegrass
PHHO	<i>Phlox hoodii</i>	spiny phlox
POSE	<i>Poa secunda</i>	Sandberg's bluegrass
PPFF	-	perennial forb
RATE	<i>Ranunculus testiculatus</i>	bur buttercup
SIHY	<i>Sitanion hystrix</i>	bottlebrush squirreltail
STTH2	<i>Stipa thurberiana</i>	Thurber's needlegrass
TECA2	<i>Tetradymia canescens</i>	spineless horsebrush

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