

**BUREAU OF LAND MANAGEMENT**

**ELKO DISTRICT  
Tuscarora Field Office**

# **Bellinger Seeding Allotment**

**DRAFT**

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

**Elko District, Nevada**

**Tuscarora Field Office**

**July 2009  
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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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## **Table of Contents**

I. Introduction.....	1
II. Allotment Description, Resource Values, and Uses.....	2
III. Summary of Available Monitoring Data.....	6
IV. Conclusions and Determinations.....	11
Literature Cited.....	15

### **Attachments**

- Map 1: Bellinger Seeding Allotment.
- Map 2: Bellinger Seeding Allotment Pastures.
- Map 3a: Bellinger Seeding Allotment Sage Grouse Summer Habitat.
- Map 3b: Bellinger Seeding Allotment Sage Grouse Nesting Habitat.
- Map 3c: Bellinger Seeding Allotment Sage Grouse Winter Habitat.

### **Appendices**

- A: Birds by Habitat Type within the Bellinger Seeding Allotment.
- B: Mammals by Life Zone within the Bellinger Seeding Allotment.
- C: Mammals by Vegetation Association within the Bellinger Seeding Allotment.
- D: Bats by Vegetation Type within the Bellinger Seeding Allotment.
- E: Reptiles and Amphibians by Vegetation Association within the Bellinger Seeding Allotment.
- F: Vertebrates by key Habitats within the Bellinger Seeding Allotment.
- G: BLM Sensitive Terrestrial Vertebrates Species within the Bellinger Seeding Allotment.
- H: BLM Key to Plant Acronyms in Bellinger Seeding Allotment.

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**NORTHEASTERN GREAT BASIN STANDARDS AND GUIDELINES ASSESSMENT**  
**2009**

**BELLINGER SEEDING ALLOTMENT**  
Tuscarora Field Office

**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 Bellinger Seeding 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 Bellinger Seeding Allotment is located approximately 10 miles east of Elko, NV. See Map 1. Elevations in the allotment range from 5,400 to 5,600 feet above sea level. Topography in the allotment is generally flat, with low ridges and shallow swales. The allotment contains approximately 2,460 acres of land, all of which are public.

The Elko Resource Management Plan categorized the Bellinger Seeding Allotment as a class “M”, or Maintain, allotment. Characteristics of Category M allotments were:

- Existing range improvements are adequate or essentially so. The primary concern is with maintaining existing projects.
- The potential is moderate to high for a positive economic return on public investment for potential new range improvements and vegetative manipulations. Investment is cost effective.
- There are resource conflicts but they can be corrected with minimal effort.
- The land ownership objective is to maintain its present state.
- Livestock distribution is good. All areas are being use proportionately. The current level of use by all grazing animals is satisfactory.
- The present activity plan if implemented is acceptable as it exists. Minor modifications to resolve resource conflicts may be required. No physical problems exist to prevent the implementation of a new plan at the present time (if one is required).
- The current ecological range and watershed condition is satisfactory. The primary concern is with maintaining existing conditions that are static or improving. The average climax potential is moderate to high.

The allotment is divided into three pastures. See Map 2 for a detailed map of the allotment. The Native Pasture occupies the southern half of the allotment. 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*), and Indian ricegrass (*Oryzopsis hymenoides*). The northern half of the allotment is divided into the East and West Seeding Pastures, both of which have been seeded to crested wheatgrass (*Agropyron cristatum*). Sagebrush has become well established in both seedings. The only water in the allotment is found at a well located where the three pastures meet at the center of the allotment. See Map 2 for the location of the water development.

The BLM completed an allotment evaluation for this allotment in 1988. The findings of the evaluation resulted in a grazing agreement that governed livestock grazing management on the allotment. A subsequent change in the terms and conditions of the grazing permit later replaced the grazing agreement. The authorized season of use for the allotment is currently April 1 to December 31 annually in all pastures, subject to the following terms and conditions:

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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- The permittee must meet annually with the BLM to plan livestock use.
- The Native Pasture must be deferred until after seed ripe two out of every four years.

Total permitted use amounts to 586 Animal Unit Months (AUMs), of which 145 are in the Native Pasture, 220 are in the East Seeding, and 221 are in the West Seeding. The allotment is grazed by one permittee, Rabbit Creek Ranches L.L.C.

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
Crested wheatgrass	Maximum annual utilization level of 65%

The Bellinger Seeding 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 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 G. 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

Currently (as of February 20, 2009), there are no known threatened or endangered species present or known to exist in the Bellinger Seeding 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 Bellinger Seeding 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 in the allotment. 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 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 while the northern 80% serves as nesting and early brood rearing habitat and the northeast corner provides winter sage grouse habitat (see Map 3a – 3c). There are no sage grouse leks (breeding display areas) within the Bellinger Seeding Allotment boundary. The nearest lek is approximately 1.4 miles from the northwest corner of the allotment. All areas of the Bellinger Seeding Allotment potentially provide sage grouse habitat. Sage grouse use this allotment primarily as late summer habitat, but portions may be used as winter as well as nesting and early brood rearing habitat. Wyoming big sagebrush within the allotment provides forage and cover for adult sage grouse and late brood rearing areas for young. These areas are adequate to provide sage grouse with the needed cover and nutritional requirements for year-round activities. Sagebrush canopy cover, where it occurs was estimated at 20% to 30% based on data collected in 2002 and field observations in 2006 and 2008.

### **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 Bellinger Seeding 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 Bellinger Seeding 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 Bellinger Seeding 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 Bellinger Seeding 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 Bellinger Seeding 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 Bellinger Seeding Allotment includes habitat for many of these bird species on a seasonal or yearlong basis. Bird species likely to use the Bellinger Seeding 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.

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## Bellinger Seeding Allotment Standards and Guidelines Assessment

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### Recreation

No established recreational areas exist on the Bellinger Seeding 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 representative site within a use area selected to monitor trends in the 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. In years not listed utilization data was not collected.

<b>Key Area #1- West Seeding</b>	
<b>Key Species: crested wheatgrass (<i>Agropyron cristatum</i>)</b>	
<b>Year</b>	<b>Crested wheatgrass</b>
1975	42%
1977	54%
1978	0%
1980	0%
1981	16%
1982	0%
1983	33.5%*
1984	10%
1985	5%
1986	37%
1987	66%
1988	84%
1989	25%
1990	65%
1991	39%
1992	59%
1993	51%
1994	28%
1995	11%
1996	60%
1997	32%
1998	3%
2000	29%
2003	12%

Bellinger Seeding Allotment Standards and Guidelines Assessment

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<b>Key Area #2- East Seeding</b>	
<b>Key Species: crested wheatgrass (<i>Agropyron cristatum</i>)</b>	
<b>Year</b>	<b>Crested wheatgrass</b>
<i>1975</i>	47%*
<i>1978</i>	38.5%
<i>1979</i>	43%
<i>1980</i>	25%
1982	43%
1983	0%
1984	22%
1985	6%
1986	32%
1987	70%
1988	49%
1989	51%
1990	37%
1991	31%
1992	65%
1993	22%
1994	22%
1995	8%
1996	57%
1997	52%
1998	4%
2003	22.5%

\*Denotes average of more than one transect. Date in *italics* was collected prior to the establishment of the key areas.

<b>Key Area #3- Native Pasture</b>					
<b>Key Species: Western wheatgrass (<i>Agropyron smithii</i>), Sandberg's bluegrass (<i>Poa secunda</i>)</b>					
<b>Other Species: bottlebrush squirreltail (<i>Sitanion hystrix</i>), Thurber's Needlegrass (<i>Stipa thurberiana</i>), Indian ricegrass (<i>Oryzopsis hymenoides</i>)</b>					
<b>Year</b>	<b>Western wheatgrass</b>	<b>Sandberg's bluegrass</b>	<b>Bottlebrush squirreltail</b>	<b>Thurber's Needlegrass</b>	<b>Indian ricegrass</b>
1982	41%				
1983	25%	26%			
1985	0%	0%			
1986	24.5%	39%			
1988	48%	59.5%	42%		
1989	33%	33%	50%		
1991	4%	21.5%	15.9%		30%
1992	48%	39%	41%	50%	
1993	31%	8%	29%	50%	

**Bellinger Seeding Allotment Standards and Guidelines Assessment**

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<b>Key Area #3- Native Pasture continued</b>					
1994	18%	9%			
1995	11%	9%	25%		21%
1997	34%	32%			
1998	0%	0%			
2000	24%	28.5%			

**2. Actual Use**

Actual use data is provided annually by the permittee by allotment to determine the amount of AUMs used by livestock during each grazing year. Actual use data is summarized by year in the table below.

<b>Actual Use: Bellinger Seeding AUMs</b>			
Year	Pasture		
	West Seeding	East Seeding	Native
1975	---427---		
1978	Rested	251	41
1982	Rested	331	172
1983	202	Rested	157
1984	Rested	220	149
1985	---104---		
1986	---280---		
1987	---720---		
1989	170	189	101
1990	239	103	Rested
1992	197	129	85
1993	130	173	114
1994	100	79	58
1995	82	87	117
1996	214	231	108
1997	351	265	170
1999	192	210	147
2000	205		145
2003	141	198	117
2004	212	114	116

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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### 3. Weight-Estimate Production

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 below.

<b>Production Data: Bellinger Seeding</b>		
Species	Total Dry Weight Production (lbs./acre)	
	1982	1987
<b>Key Area 1- West Seeding</b>		
Crested wheatgrass		1027.8
Sandberg's bluegrass		1.8
Cheatgrass		0.5
Douglas rabbitbrush		37.5
Big sagebrush		114.2
<b>Key Area 2- East Seeding</b>		
Crested wheatgrass		844
Sandberg's bluegrass		2.4
Spiny phlox		1.1
Douglas rabbitbrush		20.7
Big sagebrush		110.7
<b>Key Area 3- Native Pasture</b>		
Bluebunch wheatgrass	1.0	
Cheatgrass	62.1	
Sandberg's bluegrass	4.2	
Annual forb	1.3	
Wyoming big sagebrush	547.6	
Douglas rabbitbrush	39.9	

### 4. Frequency Summary

Frequency is the number of times a plant species is present in a given number of sampling units. It describes the abundance and distribution of plant species and is used to detect changes in the plant community over time.

<b>1982 Frequency Data- Bellinger Seeding</b>				
Species	Frame Size	Species Frequency		
		Key Area 1	Key Area 2	Key Area 3
Annual forb	30"	18%	1%	4%
Crested wheatgrass	3"	87.5%*	48%	
Crested wheatgrass	10"	56.25%*		
Western wheatgrass	30"			18%

## Bellinger Seeding Allotment Standards and Guidelines Assessment

Bluebunch wheatgrass	30"			7%
Big sagebrush	30"	16%	22%	32%
Cheatgrass	30"	4%	4%	
Cheatgrass	3"			76%
Douglas rabbitbrush	30"	14%	2%	16%
Lupine	30"	1%		3%
Spiny phlox	30"	2%	1%	12%
Sandberg's bluegrass	30"	4%	2%	18%
Bottlebrush squirreltail	30"			2%
Spineless horsebrush	30"			1%

\*The 1982 readings started out in the 10" frame for two transects (totaling the 87.5% occurrence) before switching to the 3" frame for the remaining eight transects (56.25% occurrence)

### 5. 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.

<b>Line Intercept Cover</b>				
Species	Composition by Species		Percent Cover	
	July 6, 1987	June 12, 2008	July 6, 1987	June 12, 2008
Sandberg's bluegrass	4.3%	8.6%	0.5%	4.6%
Cheatgrass	15.6%	45.1%	1.8%	24.1%
Western Wheatgrass	2.1%	6.7%	0.3%	3.6%
Lupine	7.1%	12.2%	0.8%	6.5%
Spiny phlox	3.5%	4.1%	0.4%	2.2%
Bladderpod	0.0%	7.9%	0.0%	4.2%
Spineless horsebrush	8.5%	1.5%	1.0%	0.8%
Wyoming big sagebrush	32.6%	13.9%	3.8%	7.4%
Douglas rabbitbrush	26.2%	0.0%	3.1%	0.0%

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## Bellinger Seeding Allotment Standards and Guidelines Assessment

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### 6. 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.

<b>Additional Wildlife Studies</b>		
	July 6, 1987	June 12, 2008
Horizontal Cover	61.85%	48.00%
Age Class (Wyoming big sagebrush)	Satisfactory	Unsatisfactory
Form Class (Wyoming big sagebrush)	Satisfactory	Satisfactory
Mule Deer Habitat Condition Rating	Good	Fair

### 7. Indicators of Rangeland Health

On April 29, 2008 an interdisciplinary team of BLM resource specialists visited the Bellinger Seeding 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 Bellinger Seeding Allotment are stable.
- Hydrologic Function: No departures from expected observed. Good infiltration noted.
- Biotic integrity: The team observed a large amount of old and decadent sagebrush in the Native Pasture. Cheatgrass also dominates many areas of the understory, especially under shrub cover on south and west facing slopes.

## 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 Bellinger Seeding Allotment lies in the valley floor off the west side of the Ruby Mountains.

During the 1960’s, the native plant community within the East and West Seeding Pastures of the Bellinger Seeding Allotment were converted to crested wheatgrass seedings. Crested wheatgrass was seeded for the purpose of providing forage for livestock and to increase flexibility in grazing management options in other areas. The dominant ecological site within the crested wheat seedings in the Bellinger Seeding Allotment is Loamy 8”-10” precipitation zone. The site

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## Bellinger Seeding Allotment Standards and Guidelines Assessment

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characteristics and the average annual precipitation associated with this ecological site are suitable for producing healthy and vigorous crested wheatgrass plant communities. Plant communities dominated by crested wheatgrass in this ecological site have the potential of achieving favorable site stabilization characteristics associated with the attainment of this standard.

The dominant soils in the Bellinger Seeding 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. The attainment of the utilization objective has resulted in healthy and vigorous crested wheat plants in the East and West Pastures and a stable native plant community in the Native Pasture. There has been some recent loss of sagebrush due to aroga moth infestations, and cheatgrass has become well established in portions of the Native Pasture, 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.

*Seeded Pastures* – The upland habitat values within the East and West Seeding Pastures were altered in the 1960s when the native plant community was seeded with crested wheatgrass. Crested wheatgrass seedings were commonly established during this time period to provide additional spring forage for livestock on range sites that exhibited low productivity. Although this practice is controversial from a wildlife standpoint, one benefit of establishing these seedings was to relieve livestock grazing pressure on higher elevation range sites which were more productive and diverse. Although the plant community in the East and West Seeding Pastures continues to be dominated by crested wheatgrass, some native species such as Wyoming big sagebrush, Douglas rabbitbrush, tansy mustard, Sandberg's bluegrass, spiny phlox, spineless horsebrush, prickly pear, rockcress and lupine have re-established. The upland habitat has been evaluated towards meeting this standard based on the potential of crested wheatgrass and other

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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existing upland species to provide suitable feed, water, cover and living space for animal species and maintain ecological processes within the allotment.

Production as an attribute provides insight into plant vigor and takes into account vegetation attributes such as height, basal diameter, number of stems or leaf whorls and volume. These attributes are reflected in the biomass or production of plants. Although production is affected by annual precipitation, inferences can be made to the expected productivity of the site in relation to its potential. The review of more recent information including key area photographs, shows no indication that the productive capacity or the viability of the seeding has been reduced since the last production estimates.

Production studies also provide insight into plant diversity, a key component describing this standard. Field observations have shown the presence of the species mentioned above, but the primary vegetative component remains crested wheatgrass. The Land Use Plan objective for this allotment is to maintain prior seeded areas; however, future maintenance activities will be conducted analyzing impacts to wildlife values not originally considered in the original conversion. Sage grouse conservation planning efforts are currently underway within the Tuscarora Field Office. Specific Population Management Units (PMUs) have been established and will be evaluated to determine priority attention based on identified risk factors, which include habitat alteration. Based on these determinations a series of appropriate practices designed to enhance sage grouse habitat will be assessed and incorporated as recommended.

Recorded utilization levels in the seeded pastures have largely been below desired use levels and have resulted in sufficient residual herbaceous vegetation to provide habitat for wildlife species relying upon the habitat values in the allotment. Wildlife habitat, specifically sage grouse habitat has begun to improve in these seedings as the diversity of vegetation and increase in sagebrush cover has increased since the conversion to crested wheat. Habitat quality is expected to continue to increase over time. Further, this level of use in accordance with existing management has ensured that crested wheatgrass plants are vigorous, able to reproduce and increase in long term productivity. The presence of these vegetative attributes, indicate that upland habitat values, given the present capability of the allotment, supports the attainment of this standard.

*Native Pasture* – The Native Pasture remains in native vegetation. It 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. There has also been some sagebrush mortality in recent years, most likely due to an aroga moth infestation. Cover of sagebrush increased according to the line intercept measurements, but visual evidence suggests that canopy cover of sagebrush has decreased overall within the pasture due to the die-off. It appears that rabbitbrush and cheatgrass have begun to take over portions of the pasture and a threshold may have been crossed. Dominant grass species for the ecological site (particularly bluebunch wheatgrass, Thurber's needlegrass, and bottlebrush squirreltail) are absent from the wildlife key area but do exist in other portions of the pasture based upon visual evidence and data from the range key area # 3.

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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Recorded utilization level in the Native Pasture have 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. Under the current grazing schedule, this pasture is not to be grazed prior to seed-ripe more than 2 years out of 4. Because of this relatively light grazing pressure and the timing of grazing, it is unlikely that the current grazing system is responsible for the declining trend in habitat quality.

It is determined that wildlife habitat values in this pasture are declining and that this declining trend is not due to current cattle grazing. Instead, a combination of historic heavy or untimely grazing, a recent infestation of aroga moths, and cheatgrass encroachment are likely to blame. While monitoring data indicates that the current grazing system is not responsible for this downward trend, it is unlikely that this or any other grazing system, including additional rest or non-use, will be able to turn the trend around by itself because of the lack of seed source. Therefore, the current grazing system should be left in place and alternative means of rangeland management/manipulation should be sought.

**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 Bellinger Seeding Allotment.

### **Determination**

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

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**Steve Dondero**  
**Field Manager**  
**Tuscarora Field Office**

**Date**

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## Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix A: Birds by habitat type in the Bellinger Seeding 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
Chucker	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.

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix B: Mammals by life zone in the Bellinger Seeding 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

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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Beaver	X
Black Rat	X
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.

Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix C: Mammals by vegetation association in the Bellinger Seeding 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	X	X
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

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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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.

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Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix D: Bats by vegetation type in the Bellinger Seeding 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.

Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix E: Reptiles and amphibians by vegetation association in the Bellinger Seeding 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.

## Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix F: Vertebrates by key habitats in the Bellinger Seeding 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.

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## Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix G: BLM Sensitive Terrestrial Vertebrate Species in the Bellinger Seeding 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>Lasionycteris</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>

Bellinger Seeding Allotment Standards and Guidelines Assessment

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**Appendix H: BLM Key to Plant Acronyms in the Bellinger Seeding Allotment.**

Key to Plant Acronyms

<b>Key to Plant Acronyms</b>		
Plant Acronym	Species name	Common name
AAFF	-	annual forb
AGCR	<i>Agropyron cristatum</i>	crested wheatgrass
AGSM	<i>Agropyron smithii</i>	Western wheatgrass
AGSP	<i>Agropyron spicatum</i>	bluebunch wheatgrass
ARTR	<i>Artemisia tridentata</i>	big sagebrush
ARTRW	<i>Artemisia tridentata</i> var. <i>wyomingensis</i>	Wyoming big sagebrush
BRTE	<i>Bromus tectorum</i>	cheatgrass
CHVI8	<i>Chrysothamnus viscidiflorus</i>	Douglas rabbitbrush
LESQU	<i>Lesquerella</i> spp.	bladderpod
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
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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