U.S. Department of the Interior
Bureau of Land Management

STANDARDS DETERMINATION DOCUMENT

FUNDAMENTALS OF RANGELAND HEALTH
Standards and Guidelines Assessment
Thirty Mile Spring, Badger Spring, Butte Seeding, Duckcreek Allotments and Jakes Unit Trail and Preston Lund Trail

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Standards and Guidelines for Grazing Administration were developed by the Northeastern Great Basin Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Standards are likened to objectives for healthy watersheds, healthy native plant communities, and healthy rangelands and are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines relate to management actions such as livestock grazing management.

This Standards Determination Document evaluates and assesses livestock grazing management achievement of the Standards and conformance with the Guidelines for the Thirty Mile Spring, Badger Spring, Butte Seeding, Duckcreek Allotments and Jakes Unit Trail and Preston Lund Trail in the Ely BLM District. Refer to Appendix I Overview of Allotments for a description of grazing management practices and terms and conditions of authorized use.

The Jakes Unit portion of the trail for 2704534 begins at the boundary of Badger Spring Allotment and Indian Jake Allotment. This portion of the trail is approximately 18 miles in length and one mile in width and crosses through the Indian Jake and Giroux Wash Allotments. The trail is located west of the wash and winterfat bottoms in the black sagebrush, Wyoming sagebrush, and pinyon-juniper communities. The trail is well marked with juniper posts across the Giroux Wash Allotment. The trail ends south of U.S. Highway 6 where sheep cross into the Preston Allotment. Two sheep operators use this area for sheep trailing, the other operator has active use in the Giroux Wash Allotment.

The Preston Lund Trail is used to trail sheep by three operators. The trail begins south of U.S. Highway 6 on the Preston Allotment. The trail proceeds south for approximately 29 miles crossing through Preston, Douglas Canyon, Douglas Point, North Cove, Cove, East Wells and Wells Station Allotments. When the trail enters Hardy Springs Allotment the Preston Lund Trail ends and the White River Trail begins at the boundary between the old Preston Lund and White River Planning Units. The east and west boundaries of the trail are marked by cedar posts. Entry points between fenced allotments are marked by double gates.

Sheep use the trails in the spring and fall to move between summer and winter ranges. For a description of the Thirty Mile Spring, Badger Spring, Butte Seeding and Duckcreek Allotments refer to Appendix I Monitoring Data Analysis Overview of Allotments.

This document does not evaluate or assess achievement of the wild horse and burro or Off Highway Vehicle Standards or conformance to the respective Guidelines.

The standards were analyzed for the Thirty Mile Spring (00503), Badger Spring Allotment (00823), Butte Seeding Allotment (00507), Duckcreek Allotment (00423), Jakes Unit Trail (00821), and Preston Lund Trail (00822) by a BLM interdisciplinary team consisting of rangeland management specialists, wildlife biologist, weeds specialist, and watershed specialist. Documents and publications used in the analysis process include the 1) Soil Survey of Western White Pine County, Nevada 2) Ecological Site Descriptions Major Land Resource Area 28B, Central Nevada Basin and Range Nevada, 3) Interpreting Indicators of Rangeland Health (USDI-BLM et al. 2000), 4) Sampling Vegetation Attributes (USDI-BLM et al. 1996) and 5) the National Range and Pasture Handbook (USDA-NRCS 1997). A complete list of references is included at the end of this document. All are available for public review in the Ely BLM Field Office. The interdisciplinary team used rangeland monitoring data, professional observations, and photographs to assess achievement of the Standards and conformance with the Guidelines.

The following Rangeland Heath Standards information would be incorporated into the Environmental Assessment number DOI-BLM-NV-L020-2009-0036-EA.

PART 1. STANDARD CONFORMANCE REVIEW

Table 1. Summary of Standards Achievement Statements by Allotment
Northeastern Great Basin Resource Advisory Council Standards

ALLOTMENT	STANDARD 1 Upland Sites	STANDARD 2 Riparian and Wetland Sites	STANDARD 3 Habitat
Thirty Mile Spring	Uplands: Standard achieved	Riparian: Not achieving the Standard, but making significant progress towards. Livestock are a significant contributing factor. Failure to meet the standard is also related to other issues or conditions i.e. drought, lack of snow accumulation, wetland converting to dry meadow.	Habitat: Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions. Causal factors are considered to primarily be drought, wild horses and fire suppression.
Butte Seeding	Uplands: Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to	Riparian: Not Applicable	Habitat: Not achieving the Standard, but making significant progress towards. Livestock are not a contributing factor to not meeting the standard. Failure to

	other issues or conditions i.e. drought, climate and fire suppression.		meet the standard is related to other issues or conditions i.e. drought, climate changes and fire suppression.
Badger Spring	Uplands: Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions i.e. past wild horse use, lack of precipitation, drought conditions, livestock drift from adjacent areas and changes in climate.	Riparian: Not Applicable	Habitat: Not achieving the Standard , but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions i.e. past wild horse use, lack of precipitation, drought conditions, livestock drift from adjacent areas and changes in climate and fire suppression.
Duckcreek	Uplands: Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions i.e. drought, climate change and fire suppression.	Riparian: Standard achieved	Habitat: Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions i.e. drought and fire suppression.
Jakes Unit Trail	Uplands**:** Standard achieved	Riparian: Not Applicable	Habitat: Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions i.e. location of the designated trail,

			drought, historic livestock use and fire suppression.
Preston Lund Trail	Uplands**:** Standard achieved	Riparian: Not Applicable	Habitat: Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions. i.e. location of the designated trail, droughty conditions, and fire suppression.

Thirty Mile Spring Allotment

STANDARD 1. UPLAND SITES: *"Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form."*

As indicated by:

- Indicators are canopy and ground cover, including litter, live vegetation and rock, appropriate to the potential of the site.

Determination:

X Meeting the Standard

□ Not Meeting the Standard, but making significant progress towards.

□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

□ Livestock are not a contributing factor to not meeting the standard.

□ Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X In conformance with the Guidelines.

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Achieved.*

The Thirty Mile Spring Allotment is achieving the standard. Rangeland monitoring (line intercept cover, key forage plant utilization, use pattern mapping and professional observation (including photographs)) show upland site conditions overall exhibit healthy, productive and diverse plant communities that are progressing toward exhibiting infiltration and permeability

rates that are appropriate to soil type, climate and land form over the majority of Thirty Mile Spring Allotment.

The vegetative plant communities have developed on many different soil types with several kinds of parent material. The primary parent materials on the Thirty Mile Spring Allotment are residuum and colluvium derived from limestone and dolomite, residuum and colluvium derived from andesite and conglomerate, alluvium derived from limestone and dolomite, mixed alluvium and residuum and colluvium derived from andesite, quartzite and/or conglomerate.

Cover basal and crown meets or exceeds the cover identified for range sites in the Major Land Resource Area 28B, Central Nevada Basin and Range Nevada Ecological Site Descriptions on the eleven sites data was gathered in the Thirty Mile Spring Allotment. Percent cover ranges from 10.4 to 51.1 at the various key areas on the Thirty Mile Spring Allotment (see Appendix I Monitoring Data Analysis, Table 9, Thirty Mile Spring Cover).

Utilization levels in the Thirty Mile Spring Allotment have generally been slight to moderate. Some small areas of heavy use have been recorded on the allotment, the use has been attributed to wild horses and livestock. Use pattern mapping in 1998 indicated 95% of the allotment had slight to light use, 4% had moderate use and 1% had heavy use. In 1997, 80% of the allotment had slight to light use, 18 percent had moderate use and 2% had heavy use. In 1996, 89% of the allotment had slight to light use, 4% had moderate use and 7% had heavy use. In 1992, 30% of the allotment had slight to light use, 39% had moderate use 24% had heavy use and 7% had severe use (see Appendix I Monitoring Data Analysis, Utilization, Table 5 Summarization of Use Pattern Mapping on Thirty Mile Allotment). The amount of heavy use has decreased over the years. The amount of heavy use is also related to droughty conditions and wild horse numbers when they are above the appropriate management level.

Use pattern mapping in the Gleason Creek area of the Thirty Mile Spring Allotment in 2004 indicated areas of moderate, heavy and severe use, the heavy and severe use were small areas near springs. Gleason creek use pattern mapping for 1998, 1997 and 1992 showed light to moderate use in the area except along the drainage where use was recorded as heavy. The heavy use is attributed to livestock use and contributing factors include livestock season-of-use, location of natural water sources and natural terrain/topographic features.

Utilization transects were conducted in 2004 using the key forage plant method (see Appendix I Monitoring Data Analysis, Utilization, Key Forage Plant Method, Table 4 Key area Utilization Levels on Thirty Mile Allotment). Use levels for the vast majority of the Thirty Mile Spring Allotment as measured at the key sites were appropriate during the evaluation period and ranged from slight to moderate. The utilization levels were exceeded at Key Areas TM-10, TM-11 and TM-19 in 2004. Locations where utilization levels have been exceeded at times are more related to drought conditions and wild horse numbers being in excess of the appropriate management level than livestock use alone.

Wild horse numbers in excess of the AML are also a causal factor in the allowable use levels being exceeded in areas on the Thirty Mile Spring Allotment. Buck and Bald HMA and Butte HMAs were last gathered in August 2006. The AML on Buck and Bald HMA is 423 and the

2008 estimated population is 420. The AML on Butte HMA is 95 and the estimated population is 95. Wild horses tend to concentrate in the Cabin Spring and Butte Spring and Old Well areas of Thirty Mile Spring Allotment. The Ely District Record of Decision and Approved Resource Management Plan (RMP) signed August 2008 combined the Buck and Bald HMA and Butte HMA into the Triple B HMA. The initial Appropriate Management Level for the Triple B HMA is 250-518.

The Technical Review Team for Thirty Mile Spring Allotment in 1999 also indicated trend in ecological state, is upwards except for the areas of pinyon-juniper woodland expansion, upper elevation ecological sites of the Butte Mountains at the northwestern portion of the area, and localized areas of the valley bottom near the White Sage Well. The mid seral and low seral status with a downward trend in ecological state occurs mostly in areas of encroachment by pinyon (*Pinus monophylla*) or juniper (*Juniperus osteosperma*) trees. Recognition of upward trend in ecological status followed soon after the substantial reduction in wild horse populations that occurred in 1990-91 and reduction in blacktailed jackrabbit (*Lepus californicus*) populations from their peak in the mid 1980's. Livestock numbers remained the same with livestock following deferred-rotation grazing patterns at the time that ecological status increased.

Vegetation treatments should continue to be considered to maintain the resiliency of the Wyoming big sagebrush (*Artemisia tridentata var. wyomingensis*), black sagebrush (*Artemisia arbuscula var. nova*) and woodland sites. This would help restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing the advanced threshold leading to a closed canopy of pinyon and juniper trees or shrub dominated black sagebrush and Wyoming big sagebrush communities and the resulting loss to the soil resource. The closed canopy of trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative impacts.

STANDARD 2. RIPARIAN AND WETLAND SITES*:* *"Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria."*

As indicated by:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows. Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:
- Width/Depth ratio; Channel roughness; Sinuosity of stream channel; Bank stability; Vegetative cover (amount, spacing, life form); and other cover (large woody debris, rock).
- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.
- Chemical, physical and biological water constituents are not exceeding the state water quality standards.

Determination:

□ Meeting the Standard

X Not Meeting the Standard, but making significant progress towards.

□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

X Livestock are a contributing factor to not meeting the standard.

□ Livestock are not a contributing factor to not meeting the standard.

X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

□ In conformance with the Guidelines.

X Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved. Livestock are a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Within the Thirty Mile Allotment most springs rated in proper functioning condition (see Appendix I Monitoring Data Analysis, Table 7 Riparian Proper Functioning Condition (Lentic and Lotic) Studies). Thirteen springs were rated in proper functioning condition, three springs were rated as functional-at-risk and three springs were rated as nonfunctional. Smith Spring is non-functional and livestock have been identified as the causal factor. The heavy use is attributed to livestock use. The contributing factors include livestock season-of-use, location of natural water sources and natural terrain/topographic features. Springs and the associated riparian areas adjacent to private land in the Gleason Creek area have had heavy use in the past and are not meeting the standard.

The problems have been identified and the problems are being addressed for Gleason Creek and Smith Spring. Environmental Assessments have been initiated at Gleason Creek and Smith Spring to provide protection of the riparian areas through fencing. Other springs within the allotment are in proper functioning condition or if the springs are not proper functioning the causal factors are more related to; drought, lack of snow accumulation, wetland converting to dry meadow due to fractures in underlying geologic structure resulting in water draining from surface and topography or the steepness of the drainage.

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 the life cycle requirements of threatened and endangered species."*

As indicated by:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, or age class);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Determination:

□ Meeting the Standard

X Not Meeting the Standard, but making significant progress towards.

□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

X Livestock are not a contributing factor to not meeting the standard.

X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X **In conformance with the Guidelines.**

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Rangeland monitoring (line intercept cover, ecological condition, ecological site inventory, key forage plant utilization, use pattern mapping and professional observation, including photographs) show habitat conditions overall exhibit healthy, productive and diverse plant communities that are progressing toward providing suitable habitat for wildlife and maintaining ecological processes over the majority of Thirty Mile Spring Allotment.

The monitoring indicates a diverse habitat that is generally distributed in a mosaic across the landscape appropriate for the size and location of the allotment. The variety of plant communities present shows the vegetation distribution indicator to be appropriate for the size and location of the allotment. Vegetation distribution is also enhanced by the mid and high elevation rolling, broken topography of the land area. The drainage bottoms provide cover and escape cover corridors. The vegetation within the watersheds and allotment is diverse and includes many different range sites.

Vegetative structure (life forms, cover, height, or age class) and distribution are generally appropriate as determined by ecological site descriptions, monitoring data, range observations and professional judgment.

Ecological condition data was collected in 2003 at nine of the eighteen various key areas on the Thirty Mile Spring Allotment (see Appendix I Monitoring Data Analysis, Ecological Condition). The sites rated at mid seral except at Key Area TM-10 which rated at potential natural community. Key Areas TM-1, TM-2, TM-4, TM-6 and TM-7 are in a silty 8-10 inch precipitation zone (028BY013NV). The communities are dominated by winterfat (*Krascheninnikovia lanata*) and were rated at 50% mid seral stage. Key Areas TM-5, TM-8 and TM-9 are in a coarse silty 6-8 inch precipitation zone (028BY084NV). The communities are dominated by winterfat. Two were rated at 30 percent and one was rated at 40 percent, mid seral stage. Key Area TM-10 is a saline terrace 5-8 inch precipitation zone (028BY047NV). The community is dominated by sickle saltbush (*Atriplex falcate*) and was rated at potential natural

community at 80 percent. The percent shrub composition is greater than desired and the percent grass and forb composition is less than desired on the key areas.

Ecological site inventory was conducted in the 1990's on Thirty Mile Spring Allotment. Vegetation composition (relative abundance of species) was recorded through this process. Ecological Site Inventory was completed on the Thirty Mile Spring allotment in 1991 and 1997. Analysis of the data indicates that the ecological status of the allotment as a percentage of total acres is as follows:

	1991	1997
Potential Natural Community (PNC)	0%	8%
Late Seral	20%	54%
Mid Seral	50%	28%
Early Seral	30%	10%

(This data and analysis reported in the Thirty Mile Spring Allotment Evaluation by the Technical Review Team.)

The Technical Review Team indicated the ecological status is high seral and potential natural community at the highest elevation. Uplands and alluvial fans are mid seral and high seral. Valley bottoms included large areas that were rated low seral in 1987 to 1991 and are in mid seral or high seral by 1999.

The Technical Review Team also indicated trend in ecological status, is upwards except for the areas of pinyon-juniper woodland expansion, upper elevation ecological sites of the Butte Mountains at the northwestern portion of the area, and localized areas of the valley bottom near the White Sage Well. Present mid seral and low seral status with a downward trend in ecological status occur mostly in areas of encroachment by pinyon or juniper trees. Recognition of upward trend in ecological status followed soon after the substantial reduction in horse populations that occurred in 1990-91 and reduction in blacktailed jackrabbit populations from their peak in the mid 1980's. Livestock numbers remained the same with livestock following deferred-rotation grazing patterns at the time that ecological status increased.

Vegetation distribution (patchiness, corridors) previous wild land fires, prescribed fires, vegetation treatments in the Thirty Mile Spring Allotment along with the natural topography and vegetative types has increased the vegetation distribution.
Within the Thirty Mile Spring Allotment, the Gleason Creek drainage and Smith Valley have had fuels reduction treatments. Wildland fires since 1981 have burned approximately 8,025 acres on the Thirty Mile Spring Allotment. A prescribed burn in 2007 occurred on approximately 385 acres in the Gleason Creek area.

There is a reduction in quality, vigor, and establishment of understory vegetation in forested areas where overstory vegetation cover (especially pinyon-juniper) has increased. Alluvial fans are frequently sites of invasion of pinyon-juniper. Pinyon-juniper encroachment leads to vegetation dominance of a site as a result of these trees ability to out-compete shrubs, grasses, and forbs for nutrients, light, and water. With a reduction in herbaceous vegetation and shrubs, a sites ability to capture, store, and safely release water diminishes as the soil surface becomes less

resistant to erosion. Surface runoff from rainfall and snowmelt waters increases with less water entering the soil profile for safe release; this in turn corresponds to accelerated rates of soil erosion.

The lower and higher elevations of the allotment lack desirable plant species and ecological processes are not being maintained. Plant species composition, structure, and production appear not appropriate to the range site potential in these areas. These areas appear to be losing resiliency as the favorable understory of grasses and forbs declines as Wyoming big sagebrush and black sagebrush ecological sites transition to a monoculture of woody species dominance. In the higher elevations of the allotment desirable plant species also decline as small trees increase in cover and begin to transition toward pinyon and juniper dominated communities. A discussion of these problems by dominant vegetation areas follows:

Wyoming big sagebrush ecological sites

Wyoming big sagebrush ecological sites on the allotment should consist of anywhere from 40 to 55% perennial grass composition by weight according to the ecological site descriptions. The Wyoming big sagebrush ecological sites have been affected by historic livestock use, wild horse numbers being in excess of the appropriate management, drought and lack of wildfire. The value of these areas for watershed and as habitat for wildlife and livestock is declining at lower elevations. Additional vegetation treatments that restore range resiliency and health should be considered for these areas.

Black sagebrush and mountain big sagebrush ecological sites

Professional observation indicates inappropriate cover, composition, and production in portions of the black sagebrush ecological sites. Shrubs, grasses, and forbs are declining in the understory of juniper and pinyon trees in the higher elevations. Understory decadence and mortality occur at the higher elevations. At the lower elevations the shrub component is greater and the grass and forb component is less than indicated by the ecological site guides. The potential native perennial grass component for the shallow calcareous loam site is 40% to 60%, sites exhibit less than the potential for grass and forb composition. The potential native perennial grass component for the mountain big sagebrush/low sagebrush site is 35 to 50%, sites exhibit less than the potential for grass and forb composition.

There is concern in black sagebrush ecological sites that are transitioning to areas of denser canopy cover of pinyon and juniper trees in the portions of the Thirty Mile Spring Allotment. Many of the understory shrubs, grasses, and forbs show increased plant mortality and decadence due to increased tree canopy. The more favorable understory species are being out competed for water, light, and nutrients by the pinyon and juniper trees. These areas are losing resiliency and ecological function, in part due to lack of wildfire.

Pinyon/juniper woodland community

The pinyon/juniper woodland ecological sites along the Egan and Butte Ranges in the Thirty Mile Spring Allotment exhibit a spreading, dense overstory tree canopy and sparse to absent

understory of small trees, shrubs, grasses and forbs as indicated by ecological site potential information and professional observation. These woodland plant communities are considered to be over-mature due to the lack of natural wildfire disturbance. Competition, shading, and spreading root systems are all factors leading to a declining understory. These areas revealed common understory decadence and mortality of shrubs and herbaceous species. Black sagebrush, low sagebrush (*Artemisia arbuscula*), Wyoming big sagebrush and other species are lacking or absent in portions of the woodland sites. There is an inappropriate cover, composition, and production in these areas. Understory vegetative composition should be about 35% grasses, 15% forbs, and 50% shrubs and young trees when the average overstory canopy is medium (20 to 35%).

If the pinyon and juniper canopy continues to close over black sagebrush areas, or in woodlands, especially where the trees are already thick, and understory trees, shrubs, grasses and forbs are lost, these sites could further lose appropriate canopy cover, ground cover, and litter, lose resiliency and stability, and topsoil could erode, soil structure could be lost, and productivity could be lost, in particular on the steeper slopes.

Invasive species and noxious weeds
When invasive and noxious weeds are present within the allotment, there is potential for their spread leading to alterations in vegetation composition, structure, distribution, and productivity. Nutritional value also decreases when invasive and noxious weeds are present within an allotment. Invasive annuals currently occurring sporadically throughout the Thirty Mile Spring Allotment include halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*).

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. Species found within the boundaries of Thirty Mile Spring Allotment are hoary cress or whitetop (*Lepidium draba*), bull thistle (*Cirsium vulgare*), spotted knapweed (*Centaurea stoebe*), Scotch thistle (*Onorpodum nutans*), Russian knapweed (*Acroptilon repens*), black henbane (*Hyoscyamus niger*) and musk thistle (*Carduus nutans*). Species are found along roads and drainages leading to the allotment includes Canada thistle (*Crisium arvense*) and Johnson grass (*Sorghum halepense*).

Special Status Species
The greater sage grouse (*Centrocercus urophasianus*) is a high-profile Sensitive Species currently undergoing review for Threatened or Endangered Status (USDI 2008). It has been identified as an "umbrella" species by the Ely District BLM, and chosen to represent the habitat needs of the sagebrush (*Artemisia* spp.) obligate or sagebrush/woodland dependent guild (BLM 2007; p. 4.7-10). The White Pine County sage grouse conservation plan (hereafter termed the Plan; 2004) identified approximately 49% (950,773 ac) of potential (1,870,317 ac) sage grouse habitat within the Butte Valley/White Pine PMU as not meeting the sage grouse habitat guideline standards (Connelly et al. 2000). In the sagebrush habitat rating system used in the Plan, one category, termed "R2", is defined as "Areas with inadequate grass/forb understory composition, adequate sagebrush cover". The Plan estimated approximately 708,000 acres of sagebrush habitat in this category throughout the PMU, which includes the Thirty Mile Spring allotment. Based on the cover data collected for this allotment, some of the sagebrush habitat communities at the key areas measured within the allotment fall under this category.

Three of the key areas within the Thirty Mile Spring allotment are Wyoming big sagebrush, and one is black sagebrush. As such they are current or potential sage grouse habitat. Under the sage grouse guidelines, the herbaceous grass and forb component combined should comprise at least 15% of the vegetative community by cover, and sagebrush should comprise at least 15-25% of vegetative cover (Connelly et al. 2000). These sites are not meeting the herbaceous understory requirements set forth within the sage grouse guidelines, as all grasses and forbs combined comprised only 11.6% cover at TM-3, 15% cover at TM-14, 8.1% cover at study site SMV-1260 and 9.7% at study site SMV 481. Sagebrush cover was at 14.4%, 22.1%, 7.3% and 15.3% respectively.

There are approximately 15 known leks within or near the Thirty Mile Spring allotment according to the NDOW data used by BLM. The allotment contains nesting, summer brood rearing and winter habitat. Sage grouse often nest in suitable habitat within three miles of a lek site. The allotment has some of the Butte Valley/White Pine Population Management Unit (PMU).

Site specific evaluation of sage grouse habitat guidelines should be tempered with consideration of site potentials described in the ESD. Site potentials as described in the ESD for the key areas named are more than adequate to meet the sage grouse habitat standards. Because the Thirty Mile spring allotment is not meeting the desired vegetative composition for Standard 3 or the guidelines for sage grouse habitat in key areas, the allotment fails to meet the needs of the key "umbrella" species for sagebrush habitats identified in the Ely District Resource Management Plan (2008).

Badger Spring Allotment

STANDARD 1. UPLAND SITES: *"Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form."*

As indicated by:

- Indicators are canopy and ground cover, including litter, live vegetation and rock, appropriate to the potential of the site.

Determination:

□ Meeting the Standard
X Not Meeting the Standard, but making significant progress towards.
□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.
X Livestock are not a contributing factor to not meeting the standard.
X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X In conformance with the Guidelines.

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Rangeland monitoring (line intercept cover, key forage plant utilization, use pattern mapping) and professional observation indicates that soil condition is currently being maintained for the majority of native range within Badger Spring Allotment. There are no known identified areas of immediate concern for erosion. No known areas have been identified with soil rills, gullies, or surface water flow patterns. There are no known areas where plant species are pedestalled due to wind or water erosion. No areas have been identified that have been compacted heavily enough by grazing or other impacts that could restrict water infiltration and permeability rates. Soils are generally stable and productive with topsoil in place.

The vegetative plant communities have developed on many different soil types with several kinds of parent material. The parent materials of the soils in Badger Spring Allotment are primarily alluvium, residuum and colluviums derived from limestone and dolomite, and mixed alluvium with loess mantel and volcanic ash. There is also mixed alluvium, alluvium derived from mixed rocks and some volcanic ash and lacustine sediments.

Plant communities that are progressing toward exhibiting infiltration and permeability rates that are appropriate to soil type, climate and land form over the majority of Badger Spring Allotment.

Use pattern mapping was completed on the allotment in 2008, 1993 and 1991 on the Badger Spring Allotment. Use pattern mapping through the majority of the allotment was none to slight with an area of light use and an area of moderate use. Approximately 92% of the allotment was mapped as none to slight use, 3% as light use and 5% was mapped as moderate use in 2008. Use pattern mapping in 1993 was slight to light use. Use pattern mapping in 1991 was primarily slight to light use with some moderate use occurring in around the corrals.

Utilization on Badger Spring Allotment was collected at three key areas in 2008, 2005, 2003, 2000. Utilization levels in 2008 at Key Area BS-1 were 7% on winterfat, at Key Area BS-2 the utilization level was 6% on winterfat and at Key Area BS-3 the utilization level was 33% on winterfat and 57% on needleandthread grass (*Hesperostipa comate*). Utilization levels at Key Areas BS-1 and BS-2 were slight to light. Badger Springs utilization levels were exceeded on needleandthread grass at Key Area BS-3 in 2005 (88%), 2000 (68%). These excessive utilization levels were primarily attributed to wild horse use.

Wild horse use when the population exceeds AML is the primary factor that contributes to the allowable use levels being exceeded on Badger Springs Allotment at Key Area BS-3. Jakes Wash HMA was last gathered in 2007, the appropriate management level (ALM) is 1 to 21 and the 2008 estimated population is 30 (see Appendix I Monitoring Data Analysis, Wild Horse Use, Tables 2 and 3). The Ely District Record of Decision and Approved Resource Management Plan (RMP) signed August 2008 no longer identified the Jakes Wash HMA. Jakes Wash HMA was

changed to a Herd Area. Livestock drift from an adjacent unfenced allotment is considered an additional factor.

Cover using the line intercept method was collected at Bader Spring in 2008. Cover at Key Area BS-1 was 5 percent vegetation and 13 percent litter. Total cover was 18 percent. The site is a winterfat community, 028BY084NV a course silty 6 – 8" precipitation zone (p.z.) and approximate ground cover (basal and crown) for the site is 10 to 20 percent. Cover at Key Area BS-2 was 11 percent vegetation and 17 percent litter. Total cover was 28 percent. The site is a winterfat community, 028BY013NV a silty 8 – 10" p.z. and appropriate ground cover (basal and crown) for the site is 10 to 20 percent. Cover at Key Area BS-3 was 3 percent vegetation and 23 percent litter. Total cover was 25 percent. Appropriate ground cover (basal and crown) for the winterfat community (028BY084NV a silty 6 - 8" p.z.) is 10 to 20 percent.

The vegetative cover at BS-1 and BS-3 is lower than the ecological site description identifies, however, the soil is also protected by the litter at the site. Utilization levels on the vegetation were slight at BS-1 and moderate at BS-3. The moderate use is primarily attributed to wild horse use. Extensive wild horse use was noted at BS-3 in 2008. Locations where utilization levels have been exceeded at times are more related to drought conditions and wild horse numbers being in excess of the appropriate management level possible drift from other unfenced allotments rather than authorized livestock (sheep) use alone. Current authorized livestock (sheep) levels are not a primary contributor to the low cover and utilization levels being exceeded at Key Area BS-3. Past wild horse use, lack of precipitation, drought conditions, livestock drift from adjacent areas and changes in climate are contributing more to the present situation.

Vegetation treatments should be considered to maintain the resiliency of the pinyon-juniper, black sagebrush and Wyoming big sagebrush sites. This would help restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing the advanced threshold leading to a closed canopy of pinyon and juniper trees or shrub dominated black sagebrush and Wyoming big sagebrush communities and the resulting loss to the soil resource. The closed canopy of trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative impacts.

STANDARD 2. RIPARIAN AND WETLAND SITES*:* *"Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria."*

As indicated by:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows. Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:
- Width/Depth ratio; Channel roughness; Sinuosity of stream channel; Bank stability; Vegetative cover (amount, spacing, life form); and other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.
- Chemical, physical and biological water constituents are not exceeding the state water quality standards.

Determination:

□ Meeting the Standard
□ Not Meeting the Standard, but making significant progress towards.
□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.
□ Livestock are not a contributing factor to not meeting the standard.
□ Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

□ In conformance with the Guidelines.
□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Applicable.*

Badger Spring Allotment has no riparian areas and there are no natural water sources within 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 the life cycle requirements of threatened and endangered species."*

As indicated by:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, or age class);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Determination:

□ Meeting the Standard
X Not Meeting the Standard, but making significant progress towards.
□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.
X Livestock are not a contributing factor to not meeting the standard.
X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X **In conformance with the Guidelines.**

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Badger Spring Allotment vegetation (from soil survey information) primarily consists of pinyon-juniper woodlands (34%), black sagebrush (30%), Wyoming sagebrush (16%), winterfat (9%). Rock, shadscale communities, mountain sagebrush communities, mountain mahogany communities and big sagebrush communities constitute approximately 10% of the allotment. Black greasewood, low sagebrush, serviceberry, bitterbrush, basin big sagebrush and conifer communities account for approximately 1% of the allotment.

Rangeland monitoring (line intercept cover, ecological condition, ecological site inventory, key forage plant utilization, use pattern mapping and professional observation, including photographs) show habitat conditions overall do not exhibit healthy, productive and diverse plant communities that are progressing toward providing suitable habitat for wildlife and maintaining ecological processes over portions of Badger Spring Allotment.

The monitoring indicates a lack of diverse habitat that is not distributed in a mosaic across the landscape appropriate for the size and location of the allotment. The variety of plant communities present shows the vegetation distribution to not be appropriate for the size and location of the allotment. Vegetation distribution is enhanced by the mid and high elevation rolling, broken topography of the land area. The drainage bottoms provide cover and escape cover corridors. The vegetation within the watershed and allotment includes many different range and woodland sites.

Ecological condition was collected on the Badger Spring Allotment in 2008. Key Area BS-1, a coarse silty 6-8" p.z. 028BY084NV, had a composition by weight of a trace of grasses, no forbs and 100% shrubs. Production was low at 98 lbs per acre. Potential vegetative composition is about 55% grasses, 10% forbs and 35% shrubs. Line intercept composition was 11% grasses and 89% shrubs.

Ecological condition collected in 2008 at Key Area BS-2, a silty 8-10"p. z. 028BY013NV, had a composition by weight of a trace of grasses, no forbs and 100% shrubs. Production was low at 374 lbs per acre, however in the range for an unfavorable precipitation year. The potential vegetative composition is about 30% grasses, 5% forbs and 65% shrubs. Line intercept composition was 100% shrubs.

Ecological condition collected in 2008 at Key Area BS-3, a coarse silty 6-8" p.z. 028BY084NV, had a composition by weight of 55% grasses, trace of forbs and 45% shrubs. Production was low at 226 lbs. per acre. Potential vegetative composition is about 55% grasses, 10% forbs and

35% shrubs. Line intercept composition was 40% grasses, 18 % forbs and 42% shrubs. This key area primarily has wild horse use.

Vegetative structure (life forms, cover, height, or age class) and distribution are generally appropriate for the allotment as determined by ecological site descriptions, monitoring data, range observations and professional judgment.

Key Areas BS-1 and BS-2 are shrub dominated sites. Grasses and forbs are lacking from these sites, in addition forbs are lacking in BS-3. The shrub composition is high at two of three key areas however, winterfat sites are providing an important source of forage for all users.

There is a reduction in quality, vigor, and establishment of understory vegetation in forested areas where overstory vegetation cover (especially pinyon-juniper) has increased. Alluvial fans are frequently sites of invasion of pinyon-juniper. Pinyon-juniper encroachment leads to vegetation dominance of a site as a result of these trees ability to out-compete shrubs, grasses, and forbs for nutrients, light, and water. With a reduction in herbaceous vegetation and shrubs, a sites ability to capture, store, and safely release water diminishes as the soil surface becomes less resistant to erosion. Surface runoff from rainfall and snowmelt waters increases with less water entering the soil profile for safe release; this in turn corresponds to accelerated rates of soil erosion.

The lower and higher elevations of the allotment lack desirable plant species and ecological processes are not being maintained. Plant species composition, structure, and production appear not appropriate to the range site potential in these areas. These areas appear to be losing resiliency as the favorable understory of grasses, forbs, shrubs declines as Wyoming big sagebrush and black sagebrush ecological sites transition to a monoculture of woody species dominance. In the higher elevations of the allotment desirable plant species also decline as small trees increase in cover and begin to transition toward pinyon and juniper dominated communities.

Wild horse use is a contributing factor to the allowable use levels being exceeded on Badger Springs Allotment, particularly when the population exceeds AML. Livestock drift from an adjacent unfenced allotment is considered an additional factor. Droughty conditions in the area are considered to be a causal factor along with fire suppression.

Invasive species and noxious weeds

When invasive and noxious weeds are present within the allotment, there is potential for their spread leading to alterations in vegetation composition, structure, distribution, and productivity. Nutritional value also decreases when invasive and noxious weeds are present within an allotment. Invasive annuals currently occurring sporadically throughout the Badger Spring Allotment include halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*). .

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. Species found within the boundaries of Badger Spring Allotment are hoary cress or whitetop. Species are found along roads and drainages leading to the allotment includes

Russian knapweed, bull thistle, spotted knapweed, salt cedar (*Tamarix spp*.), black henbane, musk thistle, Canada thistle and Johnson grass.

Special Status Species
The greater sage grouse (*Centrocercus urophasianus*) is a high-profile Sensitive Species currently undergoing review for Threatened or Endangered Status (USDI 2008). It has been identified as an "umbrella" species by the Ely District BLM, and chosen to represent the habitat needs of the sagebrush (*Artemisia* spp.) obligate or sagebrush/woodland dependent guild (BLM 2007; p. 4.7-10). The White Pine County sage grouse conservation plan (hereafter termed the Plan; 2004) identified approximately 49% (950,773 ac) of potential (1,870,317 ac) sage grouse habitat within the Butte Valley/White Pine PMU as not meeting the sage grouse habitat guideline standards (Connelly et al. 2000). In the sagebrush habitat rating system used in the Plan, one category, termed "R2", is defined as "Areas with inadequate grass/forb understory composition, adequate sagebrush cover". The Plan estimated approximately 708,000 acres of sagebrush habitat in this category throughout the PMU, which includes the Badger Spring allotment. Based on the cover data collected for this allotment, none of the key areas monitored are sage grouse habitat.

Butte Seeding Allotment

STANDARD 1. UPLAND SITES: *"Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form."*

As indicated by:

- Indicators are canopy and ground cover, including litter, live vegetation and rock, appropriate to the potential of the site.

Determination:

□ Meeting the Standard
X Not Meeting the Standard, but making significant progress towards.
□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.
X Livestock are not a contributing factor to not meeting the standard.
X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X In conformance with the Guidelines.
□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Rangeland monitoring and professional observation indicates that soil condition is currently being maintained for the majority of the seeded range within Butte Seeding Allotment. There are no known identified areas of immediate concern for erosion. No known areas have been identified with soil rills, gullies, or surface water flow patterns. There are no known areas where plant species are pedestalled due to wind or water erosion. No areas have been identified that have been compacted heavily enough by grazing or other impacts that could restrict water infiltration and permeability rates. Soils are generally stable and productive with topsoil in place.

The vegetative plant communities have developed on two soil types with two kinds of parent material. The parent materials of the soils in Butte Seeding Allotment are primarily loess over alluvium and alluvium derived from andesite.

Line intercept cover was collected at Butte Seeding BS-1 in 2008. Cover (basal and crown) at the key area was 9 percent. Total cover was 26 percent of which 9 percent was vegetation, 17 percent was litter and 0 percent was rock. Total cover at BS-2 was 27 percent of which 9 percent was vegetation, 18 percent was litter and 0 percent was rock.

Total cover is appropriate for soil protection. Percent cover ranges from 26 percent to 27 percent at the key areas on the Butte Seeding Allotment (see Appendix I Monitoring Data Analysis Table 10).

Utilization levels at Butte Seeding BS-1 were 84% in 2008 on crested wheatgrass (*Agropyron cristatum*), 50% in 2003 and 64% in 2002. Utilization level at Butte Seeding BS-2 was 40% in 2008. Utilization was measured at two other locations and was 63% and 52%. The desired utilization levels during the evaluation period were identified as 65%.

Use pattern mapping was completed on the Butte Seeding Allotment for 2008, 1993, 1992, 1990, 1989 and 1988. Use pattern mapping was completed for Butte Seeding in 2008 use was slight to heavy. The heavy use was located near the waters in the central portion of the seeding. Use pattern mapping indicated areas of light, moderate and heavy use during the other years. Use pattern mapping in 2008 indicated 43% of the allotment had slight use, 2% had light use, 7% had moderate use, 25% had heavy use and 23% had severe use.

Utilization levels were exceeded however applying the stocking rate formula and factoring in precipitation to the allowable use level of 65% the stocking rate is appropriate for a normal years precipitation. The yield index for 2007 was 59. Factoring precipitation (the yield index) into the utilization level to derive a stocking rate for the seeding indicates the stocking level is consistent with the level identified in the evaluation.

Portions of the allotment beyond the seeded area exhibit a lack of grasses and forbs and appear to have crossed the threshold into a monoculture of Wyoming sagebrush. Vegetation restoration should be considered for these areas. Drought, climate and fire suppression are considered to be causal factors.

STANDARD 2. RIPARIAN AND WETLAND SITES*:* *"Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria."*

As indicated by:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows. Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:
- Width/Depth ratio; Channel roughness; Sinuosity of stream channel; Bank stability; Vegetative cover (amount, spacing, life form); and other cover (large woody debris, rock).
- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.
- Chemical, physical and biological water constituents are not exceeding the state water quality standards.

Determination:

□ Meeting the Standard

□ Not Meeting the Standard, but making significant progress towards

□ Not Meeting the Standard, not making significant progress toward standard

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

□ Livestock are not a contributing factor to not meeting the standard

□ Failure to meet the standard is related to other issues or conditions

Guidelines Conformance:

□ In conformance with the Guidelines

□ Not in conformance with the Guidelines

Findings and Conclusion: *Standard Not Applicable.*

Butte Seeding Allotment has no riparian areas and there are no natural water sources within 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 the life cycle requirements of threatened and endangered species."*

As indicated by:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, or age class);

- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Determination:

□ Meeting the Standard

X Not Meeting the Standard, but making significant progress towards.

□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

X Livestock are not a contributing factor to not meeting the standard.

X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X **In conformance with the Guidelines.**

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Rangeland monitoring (line intercept cover, key forage plant utilization, use pattern mapping and professional observation, including photographs) show habitat conditions overall exhibit generally a healthy and productive seeding that is progressing toward providing suitable habitat for wildlife and maintaining ecological processes of the seeding over the majority of Butte Seeding Allotment.

Butte Seeding Allotment vegetation (from soil data and range site information) consists of a creased wheatgrass seeding in a Wyoming sagebrush community. The unseeded portion of the allotment is a Wyoming sagebrush community. Observations outside of the seeding indicate the cover is little to no grasses, no forbs and 100% shrubs.

Cover was collected at Butte Seeding BS-1 in 2008 total cover was 26 percent of which 9 percent was vegetation, 17 percent was litter and 0 percent was rock. Total cover at BS-2 was 27 percent of which 9 percent was vegetation, 18 percent was litter and 0 percent was rock.

Vegetative composition using line intercept was measured in 2008 on Butte Seeding at BS-01. The composition on the seeding was 5% grass (crested wheatgrass) and 95% shrub (Wyoming sagebrush) and the composition at BS-02 was 7% grasses (crested wheatgrass) and 93% shrubs (Wyoming sagebrush and rabbitbrush (*Ericameria spp.*).

Vegetative composition using line intercept was measured in 2008 on Butte Seeding at BS-01. The composition on the seeding was 5% grass, no forbs and 95% shrub and the composition at BS-02 was 7% grasses, no forbs and 93% shrubs.

Vegetative structure (life forms, cover, height, or age class) and distribution are generally appropriate for the seeding as determined by monitoring data, range observations and professional judgment.

Droughty conditions in the area are considered to be a causal factor. Two years (1998 and 2005) of the last ten years precipitation levels have been above the crop yield precipitation for the area (see Appendix I Monitoring Data Analysis, Precipitation Data Tables 11 and 12).

The allotment lacks desirable plant species in the unseeded portion and ecological processes are not being maintained. Butte Seeding Allotment consists of approximately 1,580 acres, the native range is approximately 545 acres and the seeding is approximately 1,035 acres. Plant species composition, structure, and production appear not appropriate to the range site potential in these areas. These areas appear to be losing resiliency as the favorable understory of grasses and forbs decline as Wyoming big sagebrush sites transition to a monoculture of woody species dominance. Maintenance of the seeding may be needed in the future in addition seeding the unseeded Wyoming sagebrush community should be considered. Causal factors include drought, climate changes and fire suppression.

Invasive species and noxious weeds

When invasive and noxious weeds are present within the allotment, there is potential for their spread leading to alterations in vegetation composition, structure, distribution, and productivity. Nutritional value also decreases when invasive and noxious weeds are present within an allotment. Invasive annuals currently occurring sporadically throughout the Butte Seeding Allotment include halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*).

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. Species found within the boundaries of Butte Seeding Allotment are hoary cress or whitetop. Species are found along roads and drainages leading to the allotment includes bull thistle, Scotch thistle and musk thistle.

Special Status Species

The greater sage grouse (*Centrocercus urophasianus*) is a high-profile Sensitive Species currently undergoing review for Threatened or Endangered Status (USDI 2008). It has been identified as an "umbrella" species by the Ely District BLM, and chosen to represent the habitat needs of the sagebrush (*Artemisia* spp.) obligate or sagebrush/woodland dependent guild (BLM 2007; p. 4.7-10). The White Pine County sage grouse conservation plan (hereafter termed the Plan; 2004) identified approximately 49% (950,773 ac) of potential (1,870,317 ac) sage grouse habitat within the Butte Valley/White Pine PMU as not meeting the sage grouse habitat guideline standards (Connelly et al. 2000). In the sagebrush habitat rating system used in the Plan, one category, termed "R2", is defined as "Areas with inadequate grass/forb understory composition, adequate sagebrush cover". The Plan estimated approximately 708,000 acres of sagebrush habitat in this category throughout the PMU, which includes the Butte Seeding allotment. No cover data has been collected for this allotment.

Duckcreek Allotment

STANDARD 1. UPLAND SITES: *"Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form."*

As indicated by:

- Indicators are canopy and ground cover, including litter, live vegetation and rock, appropriate to the potential of the site.

Determination:

□ Meeting the Standard
X Not Meeting the Standard, but making significant progress towards.
□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.
X Livestock are not a contributing factor to not meeting the standard.
X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X In conformance with the Guidelines.
□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Duckcreek Allotment is meeting or making progress towards achieving the standard. Rangeland monitoring (line intercept cover, key forage plant utilization, use pattern mapping and professional observation (including photographs)) show upland site conditions overall exhibit healthy, productive and diverse plant communities that are progressing toward exhibiting infiltration and permeability rates that are appropriate to soil type, climate and land form over the majority of Duckcreek Allotment.

Professional observation, utilization and line intercept cover measurement indicates that soil condition is currently being maintained for the majority of native range within Duckcreek Allotment. No areas have been identified as areas of immediate concern for erosion. No areas have been identified with excessive soil rills, gullies, or surface water flow patterns. There are no significant areas where plant species are pedestalled due to wind or water erosion. No areas have been identified that have been compacted heavily enough by grazing or other impacts that could restrict water infiltration and permeability rates. Soils are generally stable and productive with topsoil in place.

The vegetative plant communities have developed on many different soil types with several kinds of parent material. The parent materials of the soils in Duckcreek Allotment are primarily mixed alluvium; residuum and colluviums derived from limestone and dolomite; alluvium

derived from limestone and sandstone and residuum and colluviums derived from andesite, quartzite or conglomerate. There is also alluvium derived from andesite, limestone and dolomite; residuum and colluviums derived from tuffaceous sandstone, andesite and conglomerate; colluviums from andesite and conglomerate; residdum from quartzite; mainly alluvium derived from limestone also some loess high in ash content; mixed silty alluvium and some loess and ash and mixed alluvium derived from volcanic rock.

Use pattern mapping for Duckcreek was completed in 2008. Use pattern mapping indicated slight to light use throughout the allotment in 2008. The allotment was used at 46 percent of the stocking rate.

Utilization was collected on Duckcreek Allotment in 2008 at Key Area D-1 and was 27 percent on bluebunch wheatgrass (*Pseudoroegneria spicata ssp. spricata*) and 33 percent on needleandthread grass. Utilization at Key Area D-2 was 7 percent on bluebunch wheatgrass. Utilization at Study Site D-03 was 34% on bluebunch wheatgrass. Utilization was collected at T. 18 N., R. 64 E., Sec. 24 SESW on Duckcreek Allotment in 2007 and was 64% on grasses.

Cover using the line intercept method was collected at the key areas on Duckcreek Allotment in 2008. Cover at Key Area D-1 was 5 percent vegetation, 23 percent litter and 0 percent rock. Total cover was 28 percent. The site is a big sagebrush community, 28BY007NV a loamy 10-12" precipitation zone (p.z.), approximate ground cover (basal and crown) for the site is 20 to 30 percent. Cover at Key Area D-2 was 11 percent vegetation, 27 percent litter and 0 percent rock. Total cover was 37 percent. The site is a black sagebrush community, 28BY006NV a shallow calcareous loam 10 – 14" p.z., the appropriate ground cover (basal and crown) for the site is 15 to 25 percent. Cover at Study Site D-3 was 10 percent vegetation, 35 percent litter and 0 percent rock. Total cover was 45 percent. The site is a black sagebrush community, 028BY006NV a shallow calcareous loam 10 – 14" p.z. This particular site is unintentionally located on unfenced private land immediately adjacent to public lands and representative of the surrounding public lands.

Cover basal and crown does not meet or exceed the cover identified for specific range sites in the Major Land Resource Area 28B, Central Nevada Basin and Range Nevada Ecological Site Descriptions on the three sites data was gathered in the Duckcreek Allotment. Total percent cover ranges from 28 percent to 37 percent at the various key areas on the Duckcreek Allotment (see Appendix I Monitoring Data Analysis Table10).

Total cover is adequate to protect the soil resources. Vegetative cover is lower than the range ecological sites identify at the two key areas and study site. Utilization on the allotment has generally been slight to light. The lower vegetative cover is probably not a function of livestock use due to low utilization levels. Locations where utilization levels have been exceeded at times are more related to drought conditions more than livestock use and wildlife use alone. The lower vegetative cover at key area D-1 is also attributed in part to the Axehandle prescribed fire. The Axehandle prescribed fire was conducted in the fall of 1998 on the western portion of the Duckcreek Allotment. The area treated had a dense canopy of pinyon pine and Utah juniper. Initially, 800 acres were burned in 1998 and an additional 1,200 acres were treated in the fall of 2001.

Vegetation treatments should continue to be considered to maintain the resiliency of the Wyoming big sagebrush, black sagebrush and woodland sites on the eastern portion of the allotment. This would help restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing the advanced threshold leading to a closed canopy of pinyon and juniper trees or shrub dominated black sagebrush and Wyoming big sagebrush communities and the resulting loss to the soil resource. The closed canopy of trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative impacts. Causal factors include drought, climate change and fire suppression.

STANDARD 2. RIPARIAN AND WETLAND SITES*:* *"Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria."*

As indicated by:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows. Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:
- Width/Depth ratio; Channel roughness; Sinuosity of stream channel; Bank stability; Vegetative cover (amount, spacing, life form); and other cover (large woody debris, rock).
- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.
- Chemical, physical and biological water constituents are not exceeding the state water quality standards.

Determination:

X Meeting the Standard

□ Not Meeting the Standard, but making significant progress towards.

□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

□ Livestock are not a contributing factor to not meeting the standard.

□ Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X **In conformance with the Guidelines.**

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Achieved.*

The majority of the wetland/riparian areas within the Duckcreek Allotment are located on private ground. Only a few springs and a small, limited area along the Duck Creek drainage are located on BLM administered public lands within the allotment (Shack Spring, Wellington Springs and Five Springs). These springs were rated as proper functioning condition in 2006. The small area of Duck Creek that occurs on public lands among the private parcels has not been rated for functionality due to the small amount of public lands involved. By splitting the season of use into two separate grazing periods and rotating the use period every other year, duration of livestock use in any one year was reduced and had a positive benefit for the riparian areas especially during the June to July period.

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 the life cycle requirements of threatened and endangered species."*

As indicated by:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, or age class);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Determination:

□ Meeting the Standard

X Not Meeting the Standard, but making significant progress towards.

□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

X Livestock are not a contributing factor to not meeting the standard.

X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X **In conformance with the Guidelines.**

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*

Rangeland monitoring (line intercept cover, ecological condition, ecological site inventory, key forage plant utilization, use pattern mapping and professional observation, including photographs) show habitat conditions overall do not exhibit healthy, productive and diverse plant communities that are progressing toward providing suitable habitat for wildlife and maintaining ecological processes over portions of Duckcreek Allotment.

Duckcreek Allotment vegetation (from the soil survey) primarily consists of black sagebrush communities (28%), mountain sagebrush (*Artemisia tridentate ssp. vaseyana*) communities (19%), pinyon-juniper woodlands (17%), big sagebrush (*Artemisia tridentate*) communities 8%, mountainmahogany (*Cercocarpus intricatus)* communities (7%), low sagebrush communities (7%), mixed grass communities (5%), bitterbrush (*Pershia tridentata*) communities (4%) and Wyoming sagebrush communities (3%). Rock, basin big sagebrush (*Artemisia tridentata ssp. tridentata*) communities and coniferous forest constitute the remaining 2% of the allotment.

Ecological condition was collected in the Duckcreek Allotment in 2008 at Key Areas DC-1 and DC-2. DC-1 occurs in a loamy 10-12" p.z. 028BY007NV the area had a prescribed burn (Axehandle) the composition by weight is 88% grasses a trace of forbs and 12% shrubs. Potential vegetative composition is about 65% grasses, 10% forbs and 25% shrubs. Key Area DC-1 is at a low late seral stage at 52%. Production was 383 lbs per acre. DC-2 occurs in a shallow calcareous loam 10-14" p.z. 028BY006NV the composition by weight is 7% grasses, 2% forbs and 91% shrubs. Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs. Key Area DC-2 is at a mid seral stage at 39%. Production was 149 lbs per acre. The low production at both key areas and primarily due to below normal precipitation in addition the data was not gathered at peak production. The forb component would probably have been greater.

Vegetative composition using line intercept method was measured on Duckcreek Allotment in 2008. Key Area D-1, a loamy 10-12" p.z. 028BY007NV, had 51% grasses and 49% forbs and no shrubs. Potential vegetative composition is about 65% grasses, 10% forbs and 25% shrubs., Key Area D-2, a shallow calcareous loam 10-14" p.z. 028BY006NV, had 6% grasses, 6% forbs and 88% shrubs. Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs. Study Site D-3, a shallow calcareous loam 10-14" p.z. 028BY006NV, had 4% grasses, 9% forbs and 77% shrubs. Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs.

Vegetative structure (life forms, cover, height, or age class) and distribution are generally appropriate for the majority of the allotment as determined by ecological site descriptions, monitoring data, range observations and professional judgment. Structure has been enhanced on the vegetation composition (relative abundance of species), structure (life forms, cover, height, or age class), distribution (patchiness, corridors), productivity; and nutritional value by the Axehandle prescribed burn on the western portion of the allotment.

Vegetation distribution (patchiness, corridors) has been enhanced in the western portion of the allotment by the Axehandle prescribed fire along with the natural topography and vegetative types. The Axehandle prescribed fire was conducted in the fall of 1998 on the Duckcreek Allotment. The area treated had a dense canopy of pinyon pine and Utah juniper. Initially, 800 acres burned in 1998 and an additional 1,200 acres were treated in the fall of 2001.

There is a reduction in quality, vigor, and establishment of understory vegetation in forested areas where overstory vegetation cover (especially pinyon-juniper) has increased. Alluvial fans are frequently sites of invasion of pinyon-juniper. Pinyon-juniper encroachment leads to vegetation dominance of a site as a result of these trees ability to out-compete shrubs, grasses,

and forbs for nutrients, light, and water. With a reduction in herbaceous vegetation and shrubs, a sites ability to capture, store, and safely release water diminishes as the soil surface becomes less resistant to erosion. Surface runoff from rainfall and snowmelt waters increases with less water entering the soil profile for safe release; this in turn corresponds to accelerated rates of soil erosion.

The lower and higher elevations of the allotment lack desirable plant species and ecological processes are not being maintained on the eastern portion of the allotment. Plant species composition, structure, and production appear not appropriate to the range site potential in these areas. These areas appear to be losing resiliency as the favorable understory of grasses, forbs, shrubs declines as Wyoming big sagebrush and black sagebrush ecological sites transition to a monoculture of woody species dominance. In the higher elevations of the allotment desirable plant species also decline as small trees increase in cover and begin to transition toward pinyon and juniper dominated communities. Additional treatments should be considered on the eastern portion of the allotment. Causal factors include drought, climate change and fire suppression.

Invasive species and noxious weeds
When invasive and noxious weeds are present within the allotment, there is potential for their spread leading to alterations in vegetation composition, structure, distribution, and productivity. Nutritional value also decreases when invasive and noxious weeds are present within an allotment. Invasive annuals currently occurring sporadically throughout the Duckcreek Allotment include halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*).

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. Species found within the boundaries of Duckcreek Allotment are hoary cress or whitetop, Russian knapweed, bull thistle, spotted knapweed and black henbane. Species are found along roads and drainages leading to the allotment includes salt cedar, Scotch thistle, musk thistle, tall whitetop (*Lepidium latifolium*) and Canada thistle.

Special Status Species
The greater sage grouse (*Centrocercus urophasianus*) is a high-profile Sensitive Species currently undergoing review for Threatened or Endangered Status (USDI 2008). It has been identified as an "umbrella" species by the Ely District BLM, and chosen to represent the habitat needs of the sagebrush (*Artemisia* spp.) obligate or sagebrush/woodland dependent guild (BLM 2007; p. 4.7-10). The White Pine County sage grouse conservation plan (hereafter termed the Plan; 2004) identified approximately 85% (601,814 ac) of potential (709,421 ac) sage grouse habitat within the Antelope/White Pine PMU as not meeting the sage grouse habitat guideline standards (Connelly et al. 2000). In the sagebrush habitat rating system used in the Plan, one category, termed "R2", is defined as "Areas with inadequate grass/forb understory composition, adequate sagebrush cover". The Plan estimated approximately 525,763 acres of sagebrush habitat in this category throughout the PMU, which includes the Duckcreek allotment. Based on the cover data collected for this allotment, some of the sagebrush habitat communities at the key areas measured within the allotment falls under this category.

Two of the sites in the Duckcreek allotment are black sage. Under the sage grouse guidelines, the herbaceous grass and forb component combined should comprise at least 15% of the

vegetative community by cover, and sagebrush should comprise at least 15-25% of vegetative cover (Connelly et al. 2000). The sites have 1.31% and 1.39% at D-2 and D-3 respectively. Sagebrush is at 9.34% and 7.33% at D-2 and D-3 respectively

There are approximately 4 known leks within or near the Duckcreek allotment according to the NDOW data used by BLM. The allotment contains nesting, summer brood rearing and winter habitat. Sage grouse often nest in suitable habitat within three miles of a lek site. The allotment has some of the Antelope/White Pine Valley Population Management Unit (PMU).

Site specific evaluation of sage grouse habitat guidelines should be tempered with consideration of site potentials described in the ESD. Site potentials as described in the ESD for the key areas named are more than adequate to meet the sage grouse habitat standards. Because the Duckcreek allotment is not meeting the desired vegetative composition for Standard 3 or the guidelines for sage grouse habitat in key areas, the allotment fails to meet the needs of the key "umbrella" species for sagebrush habitats identified in the Ely District Resource Management Plan (2008).

Jakes Unit and Preston Lund Trail

The Jakes Unit Trail lies within White Pine County and is subject to the Standards and Guidelines for Nevada's Northeastern Great Basin Area. The trail encompasses portions of the Indian Jake and Giroux Wash Allotments. A portion of the Preston Lund Trail lies within White Pine County and is subject to the Standards and Guidelines for Nevada's Northeastern Great Basin Area. The trail encompasses portions of Preston, Douglas Canyon and Douglas Point Allotments

STANDARD 1. UPLAND SITES: *"Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form."*

As indicated by:

- Indicators are canopy and ground cover, including litter, live vegetation and rock, appropriate to the potential of the site.

Determination:

X Meeting the Standard

□ Not Meeting the Standard, but making significant progress towards.

□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

□ Livestock are not a contributing factor to not meeting the standard.

□ Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X In conformance with the Guidelines.

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Achieved,*

Rangeland monitoring and professional observation indicates that soil condition is currently being maintained for the majority of native range within Jakes Unit and Preston Lund Trails. There are no known identified areas of immediate concern for erosion. No known areas have been identified with soil rills, gullies, or surface water flow patterns. There are no known areas where plant species are pedestalled due to wind or water erosion. No areas have been identified that have been compacted heavily enough by grazing or other impacts that could restrict water infiltration and permeability rates. Soils are generally stable and productive with topsoil in place.

Jakes Unit Trail

The Jakes Unit Trail is meeting or making progress towards achieving the standard. Rangeland monitoring (line intercept cover, key forage plant utilization and professional observation (including photographs)) show upland site conditions that are progressing toward exhibiting infiltration and permeability rates that are appropriate to soil type, climate and land form over the majority of Jakes Unit Trail.

The vegetative plant communities have developed on many different soil types with several kinds of parent material. The parent materials of the soils along the Jakes Unit Trail are primarily mixed alluvium over weathered tuff; alluvium derived from limestone, dolomite and andesite; loess over alluvium and alluvium derived from andesite; mixed alluvium with a mantle of loess in high content of volcanic ash; mixed alluvium from volcanic rock; and silty alluvium derived from mixed rocks and some volcanic ash. There is also residuum from ash flow tuff and some calcareous loess, residuum and colluvium derived from andesite and mixed alluvium.

Utilization levels observed and collected in 2009 along the Jakes Unit Trail in Giroux Wash and Indian Jake Allotments were slight on black sagebrush for domestic sheep use.

Line intercept cover was collected along the Jakes Unit Trail on the Giroux Wash Allotment in 2009 and total vegetative cover was measured at 34 percent, in addition litter measured 7 percent. Total cover is 41 percent. Moss occupied a portion of the site. Antelope and mule deer sign (tracks and scat) was observed. The soils are stable with grasses and cryptogrammic crusts in the interspaces.

Line intercept cover was collected along the Jakes Unit Trail on the Indian Jake Allotment in 2009 and total basal and crown cover was measured at 28 percent, in addition litter measured 6 percent. Total cover is 34 percent. Wild horse, antelope and mule deer sign (tracks and scat) was observed. The soils are stable with grasses and cryptogrammic crusts in the interspaces.

Cover basal and crown meets or exceeds the cover identified for specific range sites in the Major Land Resource Area 28B, Central Nevada Basin and Range Nevada Ecological Site Descriptions on the two sites data was gathered in the in the Indian Jake and Giroux Wash Allotments. Both sites are in a black sagebrush community (shallow calcareous loam 8 – 10” p.z. 028BY011NV),

approximate ground cover (basal and crown) for the site is 15 to 20 percent. Total percent cover ranges from 34% to 41% at the various study sites along the trail (see Appendix I Monitoring Data Analysis Table 10). Vegetative cover ranges from 28% to 34%.

Wild horse use when the population exceeds AML has been identified as a primary factor that contributes to the allowable use levels being exceeded along the Jakes Unit Trail. Jakes Wash HMA was last gathered in 2007, the appropriate management level (ALM) is 1 to 21 and the 2008 estimated population is 30 (see Appendix I Monitoring Data Analysis, Wild Horse Use, Tables 2 and 3). The Ely District Record of Decision and Approved Resource Management Plan (RMP) signed August 2008 no longer identified the Jakes Wash HMA. Jakes Wash HMA was changed to a Herd Area.

The Jakes Unit Trail throughout the White River Valley exhibits pinyon juniper encroachment in the black sagebrush sites. Vegetation treatments should be considered to maintain the resiliency of the Wyoming big sagebrush and black sagebrush and juniper black sagebrush sites. The encroachment along the trail impedes sheep trailing. Vegetative treatments would help restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing the advanced threshold leading to a closed canopy of pinyon and juniper trees or shrub dominated black sagebrush and Wyoming big sagebrush communities and the resulting loss to the soil resource. The more favorable understory species are being out competed for water, light, and nutrients by the pinyon and juniper trees. These areas are losing resiliency and ecological function, in part due to lack of wildfire. The closing canopy of juniper trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative impacts.

Preston Lund Trail

The Preston Lund Trail is meeting or making progress towards achieving the standard. Rangeland monitoring (line intercept cover, key forage plant utilization and professional observation (including photographs)) show upland site conditions that are progressing toward exhibiting infiltration and permeability rates that are appropriate to soil type, climate and land form over the majority of the Preston Lund Trail.

The parent materials of the soils along the Preston Lund Trail in White Pine County are primarily mixed alluvium; alluvium derived from limestone, dolomite and andesite; mixed alluvium and some loess; mixed alluvium derived from volcanic rock; residuum and colluviums derived from limestone and dolomite; silty alluvium derived from mixed rock; residuum derived from ash flow tuff and some calcareous loess.

Utilization collected in 2008 along the Preston Lund Trail was slight at Key Area PR03 in the Preston Allotment. Black sagebrush was 3 percent and Indian ricegrass was 6 percent. Utilization collected on the Douglas Canyon Allotment in 2008 measured 10%, slight use, on black sagebrush. Utilization collected in 2008 at Douglas Point Allotment measured 8 percent on black sagebrush. Utilization was collected, at a study site, on the Preston Lund Trail portion of North Cove Allotment in 2008 measured 13% on winterfat.

Utilization collected in the North Cove Allotment using the key forage plant method at key area NC-2 (Middle pasture) was 40% on winterfat in 2009. Utilization collected ate at key area NC-3(Middle pasture) was 30% on winterfat in 2009. A compliance check in 2002 indicated moderate use levels over most of the allotment.

Line intercept cover was collected along the Preston Lund Trail on Douglas Canyon, Douglas Point, Preston, and North Cove Allotments in 2008. The study site at Douglas Canyon Allotment measured 37 percent vegetation and litter was 9 percent the total cover was 46 percent. The study site on Douglas Point Allotment measured 36 percent vegetation and litter was 4 percent the total cover was 40 percent. Two key areas in the Preston Allotment were measured. Key Area PR02 measured 16 percent vegetation and litter was 10 percent. Total cover for the location was 26 percent. Key Area PR03 measured 12 percent vegetation and litter was 6 percent. Total cover for the location was 18 percent. The study site on North Cove Allotment in 2008 measured 20 percent vegetation, litter was 2 percent and the total cover was 22 percent.

Key Areas NC-02 and NC-03 which are located within a mile of the trail on the North Cove Allotment indicated there was no excessive trampling or compaction. NC-03 data indicated biotic crusts were abundant in 2008.

Cover basal and crown meets or exceeds the cover identified for specific range sites in the Major Land Resource Area 28B, Central Nevada Basin and Range Nevada Ecological Site Descriptions on the Preston, Douglas Canyon, Douglas Point and North Cove Allotments along the Preston Lund Trail. Six sites are in black sagebrush communities (shallow calcareous loam 8 – 10" p.z. 028BY011NV), approximate ground cover (basal and crown) for the sites is 15 to 20 percent. Total percent cover ranges from 18% to 46% at the various study sites along the trail (see Appendix I Monitoring Data Analysis Table 10). Vegetative cover ranges from 12% to 37%.

The study site on North Cove Allotment is a winterfat community (silty 8-10" p.z. 028BY013NV), approximate ground cover (basal and crown) for the site is 10 to 20 percent. Total percent cover measured 22% and vegetative cover measured 20%.

Cover collected in the North Cove Allotment on key area NC-2 in 2008 was 8 percent vegetation and 8 percent litter and no rock was noted. The total cover was 16 percent. Cover collected in 2008 at key area NC-3 was 11 percent vegetation and 10 percent litter. The total cover at the key area was 21 percent. The soil survey indicated both key areas are a 029XY420NV range site with ground cover (ground and basal) of 15-30%.

Total cover is appropriate for soil protection. Utilization was slight along the trail in 2008 and cover meets or exceeds the cover identified in the ecological site description. Causal factors include location of the designated trail, droughty conditions, historic livestock use and fire suppression rather than use by trailing sheep.

The Preston Lund Trail exhibits monocultures of black sagebrush and Wyoming sagebrush. Vegetation treatments should be considered to maintain the resiliency of the Wyoming big sagebrush and black sagebrush sites. This would help restore the appropriate cover and

composition of understory grasses, forbs and shrubs and prevent crossing the advanced threshold leading to shrub dominated black sagebrush and Wyoming big sagebrush communities and the resulting loss to the soil resource.

Table 2. Line intercept cover at key areas and study sites along the Preston Lund and Jakes Unit Trails.

Allotment: Key Area or Study Site: UTM Location	Ecological Site	Vegetation	Litter	Rock	Total Percent Cover	Potential Range Described
Jakes Unit Trail (Giroux Wash); JUTSSGW-1 663395 E 4321440 N	028BY011NV	34%	7%	0%	41%	15-20%
Jakes Unit Trail (Indian Jake); JUTSSIJ 01; 656361 E 4337943 N	028BY011NV	28%	6%	0%	34%	15-20%
Preston Lund Trail (Preston); PR02; 663167 E 4315661 N	028BY011NV	16%	10%	0%	26%	15-20%
Preston Lund Trail (Preston); PR03; 664239 E 4312111 N	028BY011NV	12%	6%	0%	18%	15-20%
Preston Lund Trail (Douglas Canyon); PLTSSDC-01; 662594 E 4302865 N	028BY011NV	37%	9%	0%	46%	15-20%
Preston Lund Trail (Douglas Point); PLTSSDP-01; 661771 E 4295307 N	028BY011NV	36%	4%	<1%	40%	15-20%
Preston Lund Trail (North Cove); PLTSSC-01; 659146 E 4291850 N	028BY013NV	20.07%	2.3%	0%	22.37%	10-20%

STANDARD 2. RIPARIAN AND WETLAND SITES: *"Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria."*

As indicated by:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows. Elements indicating proper functioning condition such as avoiding accelerating

erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:

- Width/Depth ratio; Channel roughness; Sinuosity of stream channel; Bank stability; Vegetative cover (amount, spacing, life form); and other cover (large woody debris, rock).
- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.
- Chemical, physical and biological water constituents are not exceeding the state water quality standards.

Determination:

□ Meeting the Standard
□ Not Meeting the Standard, but making significant progress towards.
□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.
□ Livestock are not a contributing factor to not meeting the standard**.**
□ Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

□ In conformance with the Guidelines.
□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Applicable.*

Jakes Unit and the Preston Lund Trail have no riparian areas and there are no natural water sources within this trail.

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 the life cycle requirements of threatened and endangered species."*

As indicated by:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, or age class);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Determination:

□ Meeting the Standard
X Not Meeting the Standard, but making significant progress towards.
□ Not Meeting the Standard, not making significant progress toward standard.

Causal Factors:

□ Livestock are a contributing factor to not meeting the standard.

X Livestock are not a contributing factor to not meeting the standard.

X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X **In conformance with the Guidelines.**

□ Not in conformance with the Guidelines.

Findings and Conclusion: *Standard Not Achieved, but making significant progress towards achieving the standard. Livestock are not a contributing factor to not meeting the standard. Failure to meet the standard is related to other issues or conditions.*.

Rangeland monitoring (line intercept cover, key forage plant utilization and professional observation, including photographs) indicates the habitats lack healthy, productive and diverse populations of native and/or desirable plant species, appropriate to the site characteristics and are not maintaining ecological processes along Jakes Unit and Preston Lund Trail. The trail is located in Jakes and White River Valleys and is one mile wide occurring primarily in black sagebrush and Wyoming sagebrush communities. Diversity of habitat is limited due to the physical placement and location of the trail. There are few ecological sites within the designated trail. Ecological site characteristics exhibit healthy shrub dominate species, shrub composition is between 98 and 100 percent. There are some grasses and forbs present in the interspaces but not in the quantity described in the ecological site descriptions. The ecological description suggests a vegetative composition of grasses at 50 percent and forbs at 5 percent, the present situation for grass composition is between a trace and one percent, forb composition is between 0 and one percent using the line intercept method.

Vegetative structure (life forms, cover, height, or age class) represented by cover, basal and crown, meets or exceeds the cover identified for specific range sites in the Major Land Resource Area 28B, Central Nevada Basin and Range Nevada Ecological Site Descriptions on the seven sites data was gathered in the Indian Jake and Giroux Wash Allotments along the Jakes Unit Trail and in the Preston, Douglas Canyon, Douglas Point and North Cove Allotments along the Preston Lund Trail. Six sites are in black sagebrush communities (shallow calcareous loam 8 – 10" p.z. 028BY011NV), approximate ground cover (basal and crown) for the sites is 15 to 20 percent. One site is a winterfat community (silty 8-10" p.z. 028BY013NV), approximate ground cover (basal and crown) for the sites is 10 to 20 percent. Generally the Wyoming sagebrush and black sagebrush communities are even aged.

Vegetation distribution (patchiness, corridors) is restricted or limited and not applicable for the trails which are one mile wide through Jakes Valley and White River Valley.

Table 3. Vegetative composition using line intercept on the Preston Lund and Jakes Unit Trail

Allotment; Key Area or Study Site	Location UTM (NAD 83 Zone 11)	Ecological Site	Present Situation Percent	Potential Vegetative Percent

			Composition	Composition
Jakes Unit Trail (Giroux Wash); JUTSSGW-1	663395 E 4321440 N	028BY011NV	1% Grasses 0% Forbs 99% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Jakes Unit Trail (Indian Jake); JUTSSIJ 01	656361 E 4337943 N	028BY011NV	1% Grasses 0% Forbs 99% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (Preston); PR02	663167 E 4315661 N	028BY011NV	Trace Grasses 0% Forbs 100% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (Preston); PR03	664239 E 4312111 N	028BY011NV	1% Grasses 1% Forbs 98% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (Douglas Canyon); PLTDC-01	662594 E 4302865 N	028BY011NV	Trace Grasses 0% Forbs 100% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (Douglas Point); PLTSSDP-01	661771 E 4295307 N	028BY011NV	Trace Grasses 0% Forbs 100% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (North Cove); PLTSSC-01	659146 E 4291850N	028BY013NV	0% Grasses 0% Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs

Jakes Unit Trail

Vegetative composition using line intercept was measured in 2009 on along the Jakes Unit Trail on the Giroux Wash and Indian Jake Allotments. The composition at a study site in Indian Jake Allotment was 99% shrubs and 1% grasses. The vegetative composition at the Giroux Wash study site was 99% shrubs and 1% grasses. Both sites occur on a black sagebrush site, a shallow calcareous loam 8 – 10" p.z (028BY011NV), the potential vegetative composition is 50% grasses, 5% forbs and 45% shrubs.

Professional observation and line intercept data indicates inappropriate composition and production in portions of the black sagebrush and Wyoming sagebrush ecological sites. At the lower elevations the shrub component is greater and the grass and forb component is less than indicated by the ecological site guides. These areas appear to be losing resiliency as the favorable understory of grasses and forbs declines as Wyoming big sagebrush and black sagebrush ecological sites transition to a monoculture of woody species dominance. The value of these areas for watershed and as habitat for wildlife and livestock is declining. Vegetation treatments that restore range resiliency and health should be considered for these areas.

There is also concern in black sagebrush and Wyoming sagebrush ecological sites that are transitioning to areas of denser canopy cover of pinyon and juniper trees in a portion of the Jakes Unit Trail. Many of the understory shrubs, grasses, and forbs show increased plant mortality and decadence due to increased tree canopy. The more favorable understory species are being out competed for water, light, and nutrients by the pinyon and juniper trees. These areas are losing resiliency and ecological function, in part due to lack of wildfire. As the trees increase in density trailing sheep in these portions becomes more difficult. Vegetation manipulation should be considered in the future to restore these communities.

Total cover is appropriate for soil protection. Utilization was slight along the trail in 2008 and cover meets or exceeds the cover identified in the ecological site description. Causal factors include location of the designated trail, drought, historic livestock use and fire suppression rather than use by trailing sheep.

Preston Lund Trail

Ecological condition was collected along the Preston Lund Trail on Preston Allotment in PR03 in 2008. Grasses measure 1%, forbs measured 1% and shrubs measured 98%. Potential vegetative composition for the shallow calcareous loam (028BY011NV) is about 50% grasses, 5% forbs and 45% shrubs. The apparent trend is not apparent.

Vegetative composition using line intercept was measured in 2008 along the Preston Lund Trail on the Preston, Douglas Canyon and Douglas Point Allotments. The key area at PR02 on Preston Allotment measured no grasses, no forbs and 100% shrubs. Douglas Canyon Allotment study site composition was a trace of grasses, no forbs and 100% shrubs (black sagebrush). At the study site on Douglas Point Allotment the composition was 100% shrubs consisting of black sagebrush (98%), rabbitbrush (2%) and winterfat (trace). Six of the sites are black sagebrush communities, a shallow calcareous loam 8 – 10" p.z. (028BY011NV), the potential vegetative composition is 50% grasses, 5% forbs and 45% shrubs.

Vegetative composition using line intercept was measured in 2008 along the Preston Lund Trail on the North Cove Allotment the composition was 100% shrubs consisting of winterfat. The site occurs on a winterfat site, a silty 8-10" p.z. (028BY013NV), the potential vegetative composition is 30% grasses, 5% forbs and 65% shrubs. Even though the site lacks the grass and forb composition the winterfat provides a high nutrient value.

There is concern in black sagebrush and Wyoming sagebrush ecological sites that have transitioned to areas of shrub dominant species along the Preston Lund Trail. The more favorable understory species are being out competed for water, light, and nutrients by the shrubs. These areas are losing resiliency and ecological function, in part due to lack of wildfire.

Professional observation and line intercept data indicates inappropriate composition and production in portions of the black sagebrush and Wyoming sagebrush ecological sites. Shrubs, grasses, and forbs are declining in the understory of juniper and pinyon trees in the lower elevations. At the lower elevations the shrub component is greater and the grass and forb component is less than indicated by the ecological site guides. These areas appear to be losing

resiliency as the favorable understory of grasses and forbs declines as Wyoming big sagebrush and black sagebrush ecological sites transition to a monoculture of woody species dominance. The value of these areas for watershed and as habitat for wildlife and livestock is declining. Vegetation treatments that restore range resiliency and health should be considered for these areas.

Other sites located along the trail include black sagebrush, Wyoming sagebrush, big sagebrush, black greasewood communities and lack the proper grass and forb composition and shrub composition appears higher than the ecological site descriptions in 2008. Vegetative treatments should be considered along the trail to restore vegetative composition on the black sagebrush, Wyoming sagebrush, big sagebrush, black greasewood communities.

Total cover is appropriate for soil protection. Utilization was slight along the trail in 2008 and cover meets or exceeds the cover identified in the ecological site description. Trailing sheep are not a major contributor to the concerns with the standard. The contributing factors include climate changes, drought, historical grazing, trail location and fire suppression more than sheep trailing across the ecological sites.

Invasive species and noxious weeds
When invasive and noxious weeds are present within the allotment, there is potential for their spread leading to alterations in vegetation composition, structure, distribution, and productivity. Nutritional value also decreases when invasive and noxious weeds are present within an allotment. Invasive annuals currently occurring sporadically throughout the Preston Lund and Jakes Unit Trails include halogeton (*Halogeton glomeratus*) and cheatgrass (*Bromus tectorum*).

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. Species found within the boundaries of the Preston Lund and Jakes Unit Trails are hoary cress or whitetop. Species are found along roads and drainages leading to the allotment includes Russian knapweed, bull thistle, spotted knapweed, salt cedar, black henbane, Scotch thistle, and tall whitetop.

Special Status Species
The greater sage grouse (*Centrocercus urophasianus*) is a high-profile Sensitive Species currently undergoing review for Threatened or Endangered Status (USDI 2008). It has been identified as an "umbrella" species by the Ely District BLM, and chosen to represent the habitat needs of the sagebrush (*Artemisia* spp.) obligate or sagebrush/woodland dependent guild (BLM 2007; p. 4.7-10). The White Pine County sage grouse conservation plan (hereafter termed the Plan; 2004) identified approximately 49% (950,773 ac) of potential (1,870,317 ac) sage grouse habitat within the Butte Valley/White Pine PMU as not meeting the sage grouse habitat guideline standards (Connelly et al. 2000). In the sagebrush habitat rating system used in the Plan, one category, termed "R2", is defined as "Areas with inadequate grass/forb understory composition, adequate sagebrush cover". The Plan estimated approximately 708,000 acres of sagebrush habitat in this category throughout the PMU, which includes the Thirty Mile Spring, Badger Spring and Duckcreek allotments, and the Jakes Unit and Preston Lund sheep trails. Based on the cover data collected for these allotments and trails, some of the sagebrush habitat communities at the key areas measured within the allotments fall under this category.

Key areas are sited in areas representative of livestock grazing on the major vegetation types throughout an allotment. Two of the key areas within the Preston (through which runs the Preston Lund Trail) allotment are black sagebrush ecological sites and are current or potential sage grouse habitat. Under the sage grouse guidelines, the herbaceous grass and forb component combined should comprise at least 15% of the vegetative community by cover, and sagebrush should comprise at least 15-25% of vegetative cover (Connelly et al. 2000). Both of these sites are not meeting the herbaceous understory requirements set forth within the sage grouse guidelines, as all grasses and forbs combined comprised only .16% cover at PR-3 and 0% cover at PR-2. Sagebrush cover was 7% at PR-3 and 16% at PR-2

There are approximately 4 known leks within or near the Preston allotment according to the NDOW data used by BLM. The allotment contains nesting, summer brood rearing and winter habitat. Sage grouse often nest in suitable habitat within three miles of a lek site. The allotment has some of the Butte Valley/White Pine Valley Population Management Unit (PMU).

Site specific evaluation of sage grouse habitat guidelines should be tempered with consideration of site potentials described in the ESD. Site potentials as described in the ESD for the key areas named are more than adequate to meet the sage grouse habitat standards. Because the Preston allotment is not meeting the desired vegetative composition for Standard 3 or the guidelines for sage grouse habitat in key areas, the allotment fails to meet the needs of the key "umbrella" species for sagebrush habitats identified in the Ely District Resource Management Plan (2008).

PART 2. ARE LIVESTOCK A CONTRIBUTING FACTOR TO NOT MEETING THE STANDARDS?

Thirty Mile Spring Allotment

Standard #1: UPLAND SITES

No. Livestock are not a contributing factor to not meeting the upland site standard.

Existing sheep and cattle grazing management and levels of grazing use within the Thirty Mile Spring Allotment are not causal factors, the standard is achieved. Cover is adequate to protect the soils. There are areas of concern in the black sagebrush, Wyoming big sagebrush, and woodland sites. Causal factors in these areas are considered to primarily be drought, fire suppression. Locations where utilization levels have been exceeded at times are more related to drought conditions and wild horse numbers being in excess of the appropriate management level than livestock use alone.

Standard #2: RIPARIAN AND WETLAND SITES

Yes. Livestock are a contributing factor to not meeting the riparian and wetland site standard.

Existing grazing management and levels of grazing are a causal factor on the Thirty Mile Spring Allotment in two spring areas, the Gleason Creek drainage area and Smith Spring. The contributing factors include livestock season-of-use, location of natural water sources and natural terrain/topographic features. Springs and the associated riparian areas adjacent to private land in the Gleason Creek area have had heavy use in the past and are not meeting the standard.

The problems have been identified and the problems are being addressed or Gleason Creek and Smith Spring. Environmental Assessments have been initiated to provide protection of the areas through fencing. Other springs within the allotment are in proper functioning condition or if the springs are not proper functioning the causal factors are more related to; drought, lack of snow accumulation, wetland converting to dry meadow due to fractures in underlying geologic structure resulting in water draining from surface and topography or the steepness of the drainage. Pinyon and juniper trees surrounding some of the springs have influenced the spring flows and riparian vegetation composition and structure on some springs in the Thirty Mile Spring Allotment.

Standard #3: HABITAT

No. Livestock are not a contributing factor to not meeting the habitat site standard.

Vegetation treatments should continue to be considered to maintain the resiliency of the Wyoming big sagebrush, black sagebrush and woodland sites, restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing the advanced threshold leading to a closed canopy of pinyon and juniper trees and the resulting loss to the soil resource on the Thirty Mile Spring Allotment. The closed canopy of trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative range impacts. Causal factors in these areas are considered to primarily be drought, wild horses and fire suppression.

Badger Spring Allotment

Standard #1: UPLAND SITES

No. Livestock are not a contributing factor to not meeting the upland site standard.

Existing grazing management and levels of grazing use within the Badger Spring are not causal factors in failing to achieve the standard in those black sagebrush, Wyoming big sagebrush, and woodland sites. Causal factors in these areas are considered to primarily be drought, fire suppression. Locations where utilization levels have been exceeded at times are more related to drought conditions and wild horse numbers being in excess of the appropriate management level, drift from other unfenced allotments than livestock (sheep) use alone. Climate change and fire suppression are also contributing to the present situation.

Vegetation treatments should be considered to maintain the resiliency of the pinyon-juniper, black sagebrush and Wyoming big sagebrush sites. This would help restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing

the advanced threshold leading to a closed canopy of pinyon and juniper trees or shrub dominated black sagebrush and Wyoming big sagebrush communities and the resulting loss to the soil resource. The closed canopy of trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative impacts.

Standard #2: RIPARIAN AND WETLAND SITES

No. Livestock are a contributing factor to not meeting the riparian and wetland site standard.

There are no riparian areas and there are no natural water sources within the Badger Spring Allotment.

Standard #3: HABITAT

No. Livestock are not a contributing factor to not meeting the habitat site standard.

Existing grazing management and levels of sheep grazing use within the Badger Spring are not causal factors in failing to achieve the standard in those Wyoming big sagebrush, black sagebrush and woodland sites. Wild horse use is a contributing factor to the allowable use levels being exceeded on Badger Springs Allotment, particularly when the population exceeds AML. Livestock drift from an adjacent unfenced allotment is considered an additional factor. Droughty conditions in the area are considered to be a causal factor.

Vegetation treatments should continue to be considered to maintain the resiliency of the Wyoming big sagebrush, black sagebrush and woodland sites, restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing the advanced threshold leading to a closed canopy of pinyon and juniper trees and the resulting loss to the soil resource. The closed canopy of trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative range impacts. Causal factors in these areas are considered to primarily be drought, fire suppression.

Butte Seeding Allotment

Standard #1: UPLAND SITES

No. Livestock are not a contributing factor to not meeting the upland site standard.

Existing grazing management and levels of grazing use within the Butte Seeding Allotment are not causal factors in failing to achieve the standard in the Wyoming big sagebrush site. Livestock are a causal factor in utilization levels being exceeded. Utilization levels were exceeded however applying the stocking rate formula and factoring in precipitation to the allowable use level of 65% the stocking rate is appropriate for a normal years precipitation. The yield index for 2007 was 59. Factoring precipitation (the yield index) into the utilization level to derive a stocking rate for the seeding indicates the stocking level is consistent with the level identified in the evaluation.

Portions of the allotment beyond the seeded area exhibit a lack of grasses and forbs and appear to have crossed the threshold into a monoculture of Wyoming sagebrush. Vegetation restoration should be considered for this area. Causal factors in these areas are considered to primarily be drought, climate change and fire suppression.

Standard #2: RIPARIAN AND WETLAND SITES

No. Livestock are not a contributing factor to not meeting the riparian and wetland site standard.

There are no riparian areas and there are no natural water sources within the Butte Seeding Allotment.

Standard #3: HABITAT

No. Livestock are not a contributing factor to not meeting the habitat site standard.

Drought, climate and fire suppression are considered to be causal factors.
The allotment lacks desirable plant species in the unseeded portion and ecological processes are not being maintained. Plant species composition, structure, and production appear not appropriate to the range site potential in these areas. These areas appear to be losing resiliency as the favorable understory of grasses and forbs decline as Wyoming big sagebrush sites transition to a monoculture of woody dominance. Maintenance of the seeding may be needed in the future in addition seeding the unseeded Wyoming sagebrush community should be considered.

Duckcreek Allotment

Standard #1: UPLAND SITES

No. Livestock are not a contributing factor to not meeting the upland site standard.

Existing grazing management and levels of grazing use within the Duckcreek Allotmentl are not causal factors in failing to achieve the standard in those black sagebrush, Wyoming big sagebrush, and woodland sites on the eastern portion of the allotment. Causal factors in these areas are considered to primarily be drought and fire suppression.

Standard #2: RIPARIAN AND WETLAND SITES

No. Livestock are not a contributing factor for the riparian and wetland site standard.

Existing grazing management and levels of grazing are not a causal factor on the Duckcreek Allotment, the standard is achieved. The majority of the wetland/riparian areas within the Duckcreek Allotment are located on private ground. Only a few springs and a small, limited area along the Duck Creek drainage are located on BLM administered public lands within the allotment (Shack Spring, Wellington Springs and Five Springs). The small area of Duck Creek that occurs on public lands among the private parcels has not been rated for functionality due to

the small amount of public lands involved. These springs were rated as proper functioning condition in 2006.

Standard #3: HABITAT

No. Livestock are not a contributing factor to not meeting the habitat site standard.

Vegetation treatments should continue to be considered to maintain the resiliency of the Wyoming big sagebrush, black sagebrush and woodland sites, restore the appropriate cover and composition of understory grasses, forbs, shrubs, and small trees, and prevent crossing the advanced threshold leading to a closed canopy of pinyon and juniper trees and the resulting loss to the soil resource. The closed canopy of trees could lead to catastrophic fire events which have been shown to result in invasive plant species spread and other negative range impacts. Causal factors in these areas are considered to primarily be drought, fire suppression rather than by livestock grazing.

Jakes Unit Trail
Standard #1: UPLAND SITES

No. Livestock are not a contributing factor to not meeting the upland site standard.

Existing grazing management and levels of grazing use while trailing sheep within the Jakes Unit Trail are not causal factors, the standard is achieved. Cover is adequate to protect the soils and utilization levels are not exceeded.

Standard #2: RIPARIAN AND WETLAND SITES

No. Livestock are not a contributing factor to not meeting the riparian and wetland site standard.

There are no riparian areas and there are no natural water sources along the Jakes Unit Trail.

Standard #3: HABITAT

No. Livestock are not a contributing factor to not meeting the habitat site standard.

There is also concern in black sagebrush and Wyoming sagebrush ecological sites that are transitioning to areas of denser canopy cover of pinyon and juniper trees in a portion of the Jakes Unit Trail. Many of the understory shrubs, grasses, and forbs show increased plant mortality and decadence due to increased tree canopy. The more favorable understory species are being out competed for water, light, and nutrients by the pinyon and juniper trees. These areas are losing resiliency and ecological function, in part due to lack of wildfire. As the trees increase in density trailing sheep in these portions becomes more difficult. Vegetation manipulation should be considered in the future to restore these communities. Causal factors include location of the designated trail, drought, historic livestock use and fire suppression rather than use by trailing sheep.

Preston Lund Trail

Standard #1: UPLAND SITES

No. Livestock are not a contributing factor to not meeting the upland site standard.

Existing grazing management and levels of trailing sheep grazing use within the Preston Lund Trail are not causal factors, the standard is achieved. Cover is adequate to protect the soils and utilization levels are not exceeded.

Standard #2: RIPARIAN AND WETLAND SITES

No. Livestock are not a contributing factor to not meeting the riparian and wetland site standard.

There are no riparian areas and there are no natural water sources along the Preston Lund Trail.

Standard #3: HABITAT

No. Livestock are not a contributing factor to not meeting the habitat site standard.

There is concern in black sagebrush and Wyoming sagebrush ecological sites that have transitioned to areas of shrub dominant species along the Preston Lund Trail. The more favorable understory species are being out competed for water, light, and nutrients by the shrubs. These areas are losing resiliency and ecological function, in part due to fire suppression.

Data indicates inappropriate composition and production in portions of the black sagebrush and Wyoming sagebrush ecological sites. Shrubs, grasses, and forbs are declining in the understory of juniper and pinyon trees in the lower elevations. At the lower elevations the shrub component is greater and the grass and forb component is less than indicated by the ecological site guides. These areas appear to be losing resiliency as the favorable understory of grasses and forbs declines as Wyoming big sagebrush and black sagebrush ecological sites transition to a monoculture of woody species dominance. The value of these areas for watershed and as habitat for wildlife and livestock is declining. Vegetation treatments that restore range resiliency and health should be considered for these areas.

Causal factors include location of the designated trail, droughty conditions, and fire suppression rather than use by trailing sheep.

PART 3. GUIDELINE CONFORMANCE REVIEW

GUIDELINES FOR THIRTY MILE SPRING, BADGER SPRING, BUTTE SEEDING, DUCKCREEK ALLOTMENTS, JAKES UNIT TRAIL AND PRESTON LUND TRAIL (see Appendix I, Monitoring Data Analysis, Guidelines for Nevada's Northeastern Great Basin Area):

GUIDELINES:

The assessment found current management to be in conformance with Guideline 1.1 and 1.3. Guideline 1.2 is not applicable to this assessment.

The assessment found current management not in conformance with Guidelines 2.1, 2.2 and 2.3 on the Thirty Mile Spring Allotment. The assessment found current management is in conformance with Guidelines 2.1, 2.2 and 2.3 on the Duckcreek Allotment. Guidelines 2.1, 2.2 and 2.3 are not applicable on Badger Spring Allotment, Butte Seeding Allotment, Jakes Unit Trail and the Preston Lund Trail. Guideline 2.4 is not applicable to this assessment.

The assessment found current management to be in conformance with Guidelines 3.1, 3.2, 3.3, and 3.6. Guidelines 3.4 and 3.5 are not applicable to this assessment.

VEGETATION MANAGEMENT GUIDELINES

Current livestock management practices are in conformance with Salt Desert Shrublands Guideline # 1 which states:

"Grazing should generally be limited to very early season grazing or dormant season rather than year round. If very early season grazing is permitted or prescribed to control cheatgrass early in spring, grazing should be terminated early enough to allow perennial plant species to set seed."

Current livestock management practices are in conformance with Sagebrush/Bunchgrass Rangelands Guideline #1 which states:

"Create and maintain a diversity of sagebrush age and cover classes on the landscape through the use of prescribed fire, prescribed natural fire, mechanical, biological, and/or chemical means to provide a variety of habitats and productivity conditions."

PART 4. MANAGEMENT PRACTICES TO CONFORM WITH GUIDELINES AND ACHIEVE STANDARDS

The implementation of a variety of livestock management practices by the permittee on the Thirty Mile Spring Allotment has resulted in the overall achievement of the allotment specific objectives as well as meeting the standards for rangeland health established for the allotment. These management practices include water hauling, active herding of sheep, use of salt and mineral block, and dividing cattle into smaller groups and scattering them over the whole allotment. These practices continue to assist in the maintenance and/or improvement of the native range.

The cattle are trucked from the winter allotments to Thirty Mile Spring Allotment in late April to early May. Approximately 350 head are turned out. Half of the herd are turned out into the Butte Seeding and the other half are turned out in the vicinity of Silver Tank and the "Burn" just south of the Thirty Mile Ranch.

The cattle in the Butte Seeding remain there until early June. Half the cattle are then trailed to the summer range in Cottonwood, Rock Spring and Gleason Creek drainages in the southern portion of the Thirty Mile Spring Allotment. The other half are trailed to Piscevich Summit, Toner Spring and Jones Canyon area for the summer. The two herds remain in their respective areas until the end of September.

The cattle initially turned out in the vicinity of Silver Tank and the "Burn" remain there until early June. The herd is then moved to Machine Drilling Canyon and the Robber Roost area north of the Thirty Mile Ranch. The herd stays in this general area until the end of September.

In early October, both herds are trailed into Butte Valley and allowed to graze the winterfat bottoms in the vicinity of White Sage Well, Old Well and 2704534 Well. In early November, the cattle are gathered and trucked to the winter allotments down south.

A third group of cattle summer on 2704534's private ground in Duckcreek Basin (east of Ely) and Duckcreek Allotment. Duckcreek Allotment season of use is divided into two grazing periods which are rotated every other year. The two grazing periods are June 1 to July 31 and August 1 to October 31. During the first year livestock grazing is authorized from June 1 to July 31 and during the following year livestock grazing is authorized from August 1 to October 31. The pattern is then repeated. The cattle are trucked to the Thirty Mile Spring Allotment in early September and are turned out into Butte Valley in the Combs Creek area in the eastern portion of the allotment. They stay there until early October then moved to the White Sage Well area for a month before being trucked south to winter range with the rest of the herd.

The sheep operation consists of three bands. The entire herd is trailed north from the winter allotments along adjudicated sheep trails to the Thirty Mile Spring Allotment in mid April. The three bands are taken to different areas of Butte Valley. The early lambers head for the northern portion of the allotment around 2704534 Well and Old Well. By late May the band moves toward Middle Canyon. They summer in the Butte Mountains in the western portion of the allotment. In late October they are trailed to White Sage Well and begin the trail south to winter range the first week of November.

The late lambers arrive in Butte Valley shortly after the early lambers. They remain in the valley until June. They are then trucked to Duckcreek Allotment in Duckcreek Basin before moving onto the Forest Service ground to summer. This band trails back to Thirty Mile Spring Allotment over Piscevich Summit and through the Combs Creek area in mid October. This band begins to trail south to winter range the first week of November.

The third band arrives in the valley by mid to late April. They stay in the vicinity of White Sage Well until the end of June. In early July the band is trailed to Cottonwood, Gleason Creek and Bothwick drainages for the summer to graze private ground as well as federal range. In mid October this band is trailed back into Butte Valley before heading south to winter range during the first week of November.

Even though Thirty Mile Spring Allotment as a whole is in good condition, monitoring data indicated riparian objectives are not being met along Gleason Creek and at Smith Spring in part

due to livestock grazing. An agreement was reached with the permittee to construct a fence around the portion of the Gleason Creek drainage and Smith Spring that has not met utilization objectives. Since livestock are a causal factor for not meeting riparian objectives particularly the allowable use levels on vegetation on Gleason Creek and Smith Spring, fencing will help in achieving the riparian objectives. Environmental Assessments have been initiated to provide protection of the riparian areas.

No changes to the permit are recommended to achieve the Standards and Guidelines for Nevada's Northeastern Great Basin Area on the allotments and trails. Changes would be made to the terms and conditions of the permit. The same kind of livestock would be grazed and the active use previously authorized would not be exceeded. Changes would be made to the terms and conditions of the permit

Table 2. Proposed Term Permit for John Uhade & Company (#2704534).

Allotment Name and Number	Livestock Number/Kind	Grazing Period Begin End	% Public Land*	Type Use	AUMs**
Thirty Mile Spring #00503	325 Cattle	04/15 – 02/28	100	Active	3,419
	2,340 Sheep	04/15 – 02/28	100	Active	4,924
Badger Spring #00823	933 Sheep	04/15 – 11/30	100	Active	1,411
Butte Seeding #00507	55 Cattle	06/01 – 10/30	100	Active	275
Duckcreek #00423	63 Cattle	06/01 – 10/31	100	Active	317
Jakes Unit Trail #00821	1,050 Sheep	04/01 – 04/30	100	Active	207
	1,050 Sheep	11/01 – 11/30	100	Active	207
Preston Lund Trail #00822	1,050 Sheep	04/01 – 04/30	100	Active	207
	1,050 Sheep	11/01 – 11/30	100	Active	207

*% Public Land is the percent of public land for billing purposes.
**AUMs may differ from Active Use due to a rounding difference with the number of livestock and the period of use.

Allotment Summary (AUMs)			
Allotment	Active Use AUMs	Suspended AUMs	Permitted Use AUMs
Thirty Mile Spring (#00503)	8,405	0	8,405
Badger Spring (#00823)	1,412	0	1,412
Butte Seeding (#00507)	275	75	350
Duckcreek (#00423)	321	0	321
Jakes Unit Trail (#00821)	466	0	466
Preston Lund Trail (#00822)	427	0	427

A new term and condition would be added to those of the previous permit addressing the Bristlecone Wilderness created through the White Pine Public Lands Act P.L. 109-432. The changes would affect motorized access in the wilderness area. No motorized access by the permittee will be permitted within the designated Bristlecone Wilderness without prior written approval of the district manager. Occasional motorized access may be permitted for emergency situations, or where practical alternatives for reasonable grazing management needs are not available and such use would not have a significant adverse impact on the natural environment.

Allowable Use Levels have been quantified and added into the terms and conditions to assist in the achievement of the standards and guidelines and land use plan objectives. A new term and condition relative to utilization levels and movement dates will also be added.

Allowable use levels would be 50% on Thirty Mile Spring, Badger Spring and Duckcreek Allotments and 65% on Butte Seeding Allotment.

Maximum utilization levels on the allotments will be established as follows:

- Perennial native grasses: 50% current year's growth
  This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) to contribute to litter cover, and 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

- Perennial non-native seedings: 65% of current year's growth on Butte Seeding
  This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) to contribute to litter cover, and 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

- Maximum allowable use levels will be established as follows:
  Perennial native grasses: 50% current year's growth
  Perennial shrubs and half-shrubs: 50% use on current annual production.

Perennial non-native seedings: 65% current year's growth

Livestock will be moved to another authorized pasture/use area or moved within the authorized pasture/use area or removed from the allotment before utilization objectives are met or upon meeting utilization objectives. Special circumstances may occur when livestock are not able to be immediately moved to areas where livestock allowable use levels have not been attained. Communication, coordination and consultation between the authorized officer and the permittee is an important component of this term and condition. Any deviation in livestock movement will require authorization from the authorized officer.

The proposed management actions would be monitored by 2704534 and the BLM, if a problematic concern arises with grazing due to the grazing pattern established by the cattle or sheep over the years, adaptive management will be used. Additional or different management practices could be implemented cooperatively in order to achievement or make additional progress toward achievement of the standards for grazing. If additional forage becomes available through management practices or vegetation treatments then allocation of forage would be addressed as appropriate.

Duckcreek Allotment season of use is divided into two grazing periods which are rotated every other year. The two grazing periods are June 1 to July 31 and August 1 to October 31. During even numbered years livestock grazing is authorized from June 1 to July 31 and during odd numbered years livestock grazing is authorized from August 1 to October 31.

Sheep will be moved a minimum of five miles a day when trailing.

Terms and Conditions common to all allotments:

1. Livestock numbers identified in the term grazing permit are a function of seasons of use and active use for each allotment. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations would not prevent attainment of the multiple-use objectives for the above allotment(s).

2. Deviations from specified grazing use dates will be allowed when consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing.

3. Pursuant to 43 CFR 10.4(G) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CRF 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities for 30 days or until notified to proceed by the authorized officer.

4. An actual use report (form 4130-5) is required to be submitted within 15 days after completing your annual grazing use.

5. Grazing use in will be in accordance with the Northern Great Basin Area Standards and Guidelines for Grazing Administration, as developed by the resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR sub-part 4180 – Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.

6. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be reissued subject to revised terms and conditions.

7. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.

8. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.

9. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

Best Management Practices (BMPs) incorporated into the Terms and Conditions

BMPs applicable to the proposed action as described in the RMP (August 2008), Appendix A.

Livestock Grazing

Water troughs

- Place troughs connected with spring developments outside of riparian and wetland habitats to reduce livestock trampling damage to wet areas.
- Control trough overflow at springs with float valves or deliver the overflow back into the native channel.

Based on allotment situations and circumstances associated with livestock grazing and multiple use management, implement any or all of the following appropriate management practices on winterfat dominated ecological sites.

- Develop grazing systems to control or rest grazing use on winterfat sites after March 1 or when the critical growing season begins. Allow spring grazing use during the critical growing period if a grazing rotation system that provides rest from grazing during the critical growing period at least every other year for all areas is in place. Utilization during the critical growth period should not exceed 35 percent under any circumstances.
- Place salt and supplements at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Locate sheep bedding grounds and camps at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.
- Locate water haul sites at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

Fish and Wildlife

• Pipe the overflow away from the last water trough on an open system to provide water at ground level.

Special Status Species

Develop grazing systems to minimize conflicts with special status species habitat.

Salt and mineral supplements:

- Base placement of salt and mineral supplements on site-specific assessment.
- Normally place salt and mineral supplements at least 0.5 mile away from riparian areas, sensitive sites, populations of special status species, cultural resource sites.
- Place salt at least 0.5 mile from any water source including troughs.
- Place salt and mineral supplements at least 1 mile from sage grouse leks.

Water hauling:

- Place water haul sites at least 0.5 mile away from riparian areas, cultural sites, and special status species locations.
- Limit water hauling to existing roads when possible.

Invasive, Non-Native Species and Noxious Weeds

A Weed Risk Assessment (See Appendix III) was completed on September 22, 2008. The stipulations listed in the Weed Risk Assessment will be followed when grazing occurs on the allotments.

- Prior to entering public lands, the BLM will provide information regarding noxious weed management and identification to the permit holders affiliated with the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- The range specialist for the allotments will include weed detection into project compliance inspection activities. If the spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with BLM personnel and will be in compliance with the appropriate BLM handbook sections and applicable laws and regulations.
- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for feed or bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District Office.

- Grazing will be conducted in compliance with the Ely District BLM noxious weed schedules. The scheduled procedures can significantly and effectively reduce noxious weed spread or introduction into the project area.
- Any newly established populations of noxious/invasive weeds discovered will be communicated to the Ely District Noxious and Invasive Weeds Coordinator for treatment.

Current livestock management practices have evolved from a combination of allotment evaluations, management action selection reports, final multiple use decisions and agreements on the Thirty Mile Spring, Badger Spring, Butte Seeding and Duckcreek Allotments (see Appendix I, Overview of Allotments, Background Livestock Information)

The livestock management practices identified above will continue to assist in the maintenance and/or improvement of the native range. These management practices help to achieve the 50% (65% for Butte Seeding) allowable use levels, proper cover and ecological condition of the native range.

Prepared by:

RMS	Title	Date
Lead RMS	Title	Date

Other Resource Specialists

Mark D'Aversa Soil/water/air/floodplains/riparian/wetlands	Date
Mindy Seal Noxious and invasive non-native species	Date
Leslie Riley Cultural resources	Date

Marian Lichtler
Wildlife/migratory birds/special status animals/plants

Date

Dave Jacobson
Wilderness Values/ACEC/Special designations

Date

Kalem Lenard
VRM/recreation

Date

Melanie Peterson
Hazardous and solid wastes

Date

Elvis Wall
Native American religious concerns

Date

Ruth Thompson
Wild Horse and Burros

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REFERENCES

USDA - USFS, NRCS, USDI - BLM, Cooperative Extension Service. 1996. Sampling Vegetative Attributes.

USDA-NRCS 1997 National Range and Pasture Handbook.

USDA – NRCS. 1998. Nevada Plant List.

USDI – BLM. 2000. Interpreting Indicators of Rangeland Health. Version 3. Technical Reference 1734-6. BLM/WO/ST-00/001+1734. National Science and Technology Center Information and Communications Group, Denver, Colorado.

USDA – NRCS. 2003. Major Land Resource Area 28B, Central Nevada Basin and Range Nevada Ecological Site Descriptions.

USDA- NRCS. 1997. Soil Survey of Western White Pine County, Nevada. US government printing office 1997-417-266/60006. 650 pp.

USDI-BLM. 2001. Rangeland Health Standards. Handbook.

Figure 1 General Location Map Thirty Mile Spring, Badger Spring, Butte Seeding, Duckcreek Allotments and Jakes Unit Trail and Preston Lund Trail

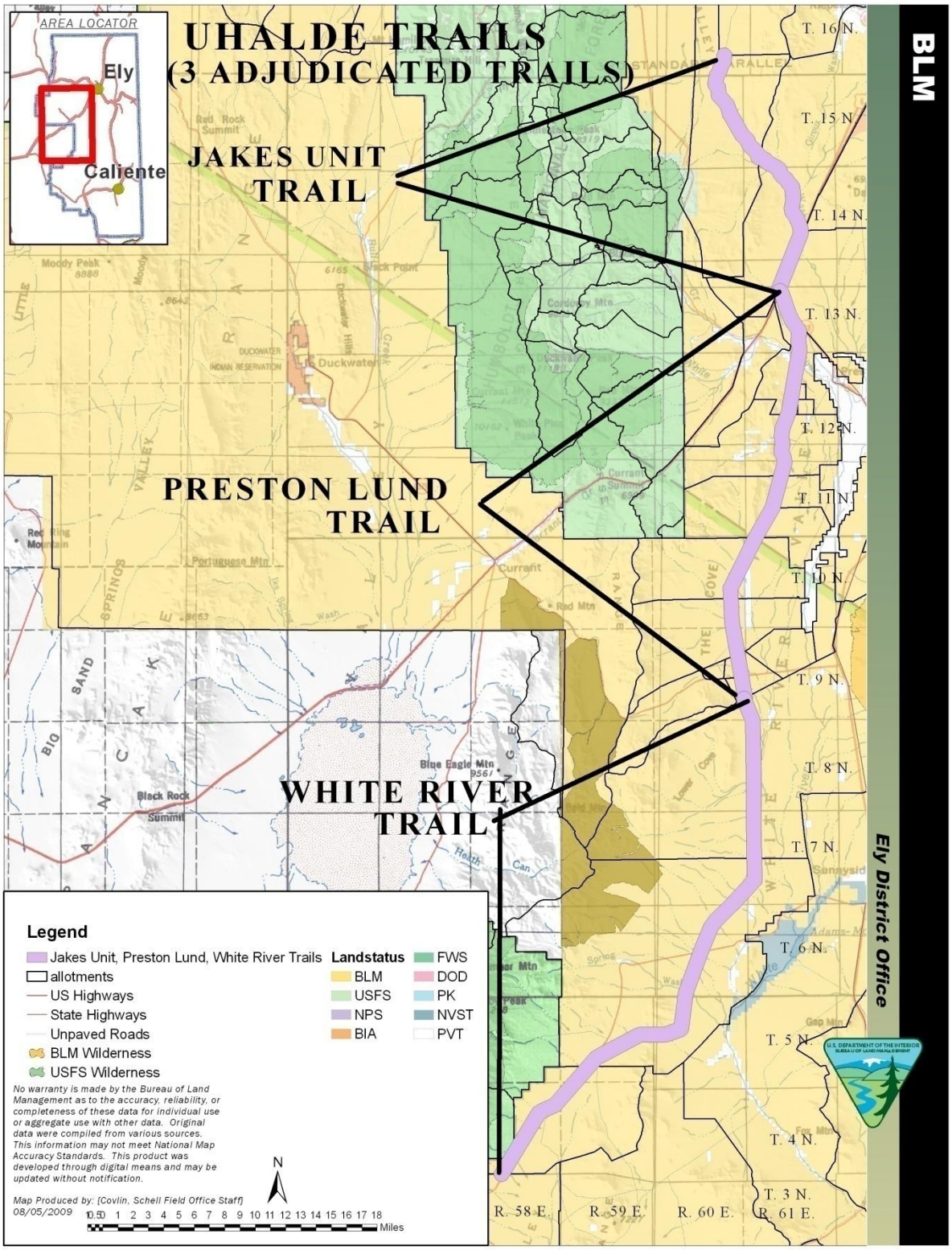
Figure 2 General Location Map of Thirty Mile Spring Allotment

Figure 3 General Location Map of Badger Spring Allotment

Figure 4 General Location Map of Butte Seeding Allotment

Figure 5 General Location Map of Duckcreek Allotment

Figure 6 General Location Map of Jakes Unit Trail, Preston Lund and White River Trails



Appendix 1

Monitoring Data Analysis - Thirty Mile Spring, Badger Spring, Butte Seeding, Duckcreek Allotments and Jakes Unit Trail and Preston Lund Trail

Licensed Livestock Use

Table 1 Licensed Use in AUMs by Allotment by Year

Allotment	Kind	2000	2001	2002	2003	2004	2005	2006	2007	2008
Badger Spring	Sheep	540	481	216	191	175	Non use	38	314	258
Butte Seeding	Cattle	71	103	253	36	117	139	32	74	Non use
Duckcreek	Sheep Cattle	Non use	20	Non use	Non use	Non use	 30	 50	 60	 149
Jakes Unit Trail	Sheep	98	Non use	Non use	Non use	Non use	30	19	42	160
Preston Lund Trail	Sheep	Non use	Non use	Non use	Non use	Non use	30	19	42	38
Thirty Mile Spring	Sheep Cattle	2820 1551	2136 1910	1776 2377	2093 1960	1346 1572	1336 2014	1271 1637	2078 2560	1726 2451

Wild Horse Use

A portion of the Butte Herd Management Area (HMA) Buck and Bald HMA and a small portion of the Jakes Wash HMA are located within the Thirty Mile Spring Allotment. A portion of the Jakes Wash HMA is located in the Badger Spring Allotment. The Jakes Unit Trail is located in the Jakes Wash HMA. The 2008 population estimate for the Butte HMA is 95, the estimate for Buck and Bald HMA is 420 and for Jakes Wash the population estimate is 30. The Butte Herd Appropriate Management Level (AML) is established at 95, the Buck and Bald AML 423 and the Jakes AML is established at 1 to 21. The last gather for Buck and Bald and Butte was August 2006 and Jakes Wash was last gathered in August 2007.

The Ely District Record of Decision and Approved Resource Management Plan (RMP) signed August 2008 combined the Buck and Bald HMA and Butte HMA into the Triple B HMA. The initial Appropriate Management Level for the Triple B HMA is 250-518 and no longer identified the Jakes Wash HMA. Jakes Wash HMA was changed to a Herd Area.

Table 2. Ely District Wild Horse Removal Summary

Ely District Wild Horse Removal Summary		
Date	HMA	Animals Removed
Feb-86	Buck and Bald	347
Jul-88	Jakes Wash (emergency)	60 (includes 19 dead)
Aug-89	Buck and Bald	338

Ely District Wild Horse Removal Summary		
Date	HMA	Animals Removed
Jul-93	Butte	195
Aug-94	Buck and Bald	562
Nov-94	Butte	70
Dec-97	Buck and Bald	1045
Dec-97	Butte	133
Jul--01	Jakes Wash (emergency)	98
Aug--01	Buck and Bald	667
Aug--01	Butte	149
Jul--04	Jakes Wash	49
Aug--05	Buck and Bald	586
Aug--05	Butte	182
Aug--06	Buck and Bald	210
Aug--06	Butte	132
Aug--07	Jakes Wash	97

Table 3. Wild Horse Population Estimates

Ely District Wild Horse Herd Management Areas
2008 Population Estimate

HMA Number	Herd Management Area	Acres	AML	Population Estimate
403	Buck and Bald	838,702	423	420
407	Butte	444,020	95	95
408	Jakes Wash	153,661	1-21	30

Utilization

Key Forage Plant Method

Utilization transects conducted in 2004, 1999, 1998, 1997, 1996 and throughout the early 1990's and 1980's using the key forage plant method. Use levels for the vast majority of the Thirty Mile Spring allotment as measured at the key sites were appropriate during the evaluation period and ranged from slight to moderate. The utilization levels were exceeded at Key Areas TM-10, TM-11 and TM-19 in 2004. Utilization levels were not exceeded during 1998. Utilization levels were exceeded at TM-11 in 1997. The utilization levels were exceeded at Key Areas TM-10 and TM-11 in 1996.

Table 4. Key Area Utilization Levels on Thirty Mile Allotment

Key Area	Key Species	Percent Utilization March '04	Percent Utilization Oct. '99	Percent Utilization Sept. '98	Percent Utilization Nov. '97	Percent Utilization April '96
TM-1	KRLA	32%	16%	12%	12%	44%
TM-2	KRLA	10%	10%	10%	10%	10%
TM-3	PSSPS	24%	16%	10%	14%	10%
TM-4	KRLA	16%	22%	12%	10%	12%
TM-5	KRLA ACHY ELEL5	14% 42% 34%	18% 10% 10%	12% 14% 14%	14% 16% 26%	12% 14% 12%
TM-6	KRLA	10%	20%	10%	10%	10%
TM-7	KRLA	10%	10%	10%	10%	18%
TM-8	KRLA	18%	10%	10%	10%	26%
TM-9	KRLA	14%	22%	12%	10%	10%
TM-10	ATFA ACHY ELEL5	62% 70%	24% 56% 52%	10% 10% 10%	20% 48% 30%	34% 66% 50%
TM-11	ACHY ELEL5	60% 18%	10% 16%	12% 18%	50% 52%	56% 20%
TM-12	PUTR ACHY/PSSPS/ HECO			28% 14%		
TM-14	PUTR PSSPS	50% 34%	42% 22%	48% 14%		
TM-15	ACHY PSSPS/HECO	18% 18%	16% 16%	10% 10%		
TM-16	HECO26	16%	14%	12%		
TM-18	PSSPS/ HECO/ACHY		 50%	 34%		
TM-19	ATFA ACHY	74%	30% 10%	50% 10%		
T. 22 N., R. 60 E., Sec. 26	ATFA ACHY KRLA			30% 10% 28%	14% 24% 16%	82% 72% 56%

Utilization on Badger Spring Allotment was collected at three key areas in 2008, 2005, 2003, 2000, 1999, 1998, 1997, 1996 since the third year reevaluation of the allotment. The utilization level in 2008 at Key Area BS-1 was 7% on winterfat, BS-2 was 6% on winterfat and at BS-3 was 33% on winterfat and 57% on needleandthread grass. Utilization levels at Key Areas BS-1 and BS-2 were slight to light. Badger Springs utilization levels were exceeded on needle-and-thread grass (HECO26) at key Area BS-3 in 2005 (88%), 2000 (68%), 1999 (72%), 1998 (70%) and 1997 (78%) and on winterfat (KRLA2) in 1999 (66%) and 1997 (74%). These excessive levels were primarily attributed to wild horse use.

Use levels at Butte Seeding BS-1 were 84% in 2008, 50% in 2003 and 64% in 2002. Use level at Butte Seeding BS-2 was 40% in 2008. Use was measured at two other locations and was 63% and 52%. The desired utilization levels during the evaluation period were identified as 65%.

Utilization was collected on Duckcreek Allotment in 2008 at Key Area D-1 and was 27% on bluebunch wheatgrass and 33% on needleandthread grass. Utilization at Key Area D-2 was 7% on bluebunch wheatgrass. Utilization at Key Area D-03 was 34% on bluebunch wheatgrass. Utilization was collected at T. 18 N., R. 64 E., Sec. 24 SESW on Duckcreek Allotment in 2007 and was 64% on grasses.

Utilization was collected on the Preston Lund Trail portion of Douglas Canyon Allotment in 2008 measured 10%, slight use on black sagebrush.

Utilization was collected on Preston Lund Tail Portion of Douglas Point Allotment in 2008 and measured 8%, slight use on black sagebrush. Utilization was collected at one study site located on the Preston Allotment in 2008, PR02 had slight use on black sagebrush and Indian ricegrass 3 percent and 7 percent respectively.

Utilization was collected on the Preston Lund Trail portion of North Cove Allotment in 2008 measured 13% on winterfat. Utilization levels in the North Cove Allotment collected using the key forage plant method at the key area showed 66% on winterfat in 1998 and 10% in 1997.

Use Pattern Mapping

Use pattern mapping was collected most recently on the Thirty Mile Spring Allotment in 2004, 1998, 1997, 1993, 1992 and 1991.

Use pattern mapping in 1998 indicated 95% of the Thirty Mile Spring Allotment had slight to light use, 4% had moderate use and 1% had heavy use. In 1997, 80% of the allotment had slight to light use, 18 percent had moderate use and 2% had heavy use. In 1996, 89% of the allotment had slight to light use, 4% had moderate use and 7% had heavy use. In 1992 30% of the allotment had slight to light use, 39% had moderate use 24% had heavy use and 7% had severe use.

Table 5. Summarization of Use Pattern Mapping on Thirty Mile Spring Allotment

Utilization Level	1992	1996	1997	1998
Slight/ Light	30%	89%	80%	95%
Moderate	39%	4%	18%	4%
Heavy	24%	7%	2%	1%
Severe	7%			

Use pattern mapping in 1993 indicated the use was primarily slight to moderate. Some heavy use was noted near Hunter Point and primarily attributed to wild horses, and this was also noted in a small area east of Gulf Well.

Use pattern mapping in 1992 indicated the use was slight to moderate with areas of heavy use which was attributed to wild horses and cattle. Areas near Hunter Point had heavy and severe use and the use was attributed to wild horses.

Use pattern mapping in 1991 showed most of the allotment in slight to light use with areas of moderate use, some heavy use was noted near eight mile point, sugar loaf area of Butte Mountain and near Hunter Point. Eight Mile Point and Hunter Point use was primarily attributed to horses.

Gleason Creek area use pattern mapping in 2004 indicated areas of moderate, heavy and severe use, the heavy and severe use were small areas near springs. Gleason creek use pattern mapping for 1998, 1997 and 1992 showed light to moderate use in the area except along the drainage where use was recorded as heavy. The heavy use is attributed to livestock use and contributing factors include livestock season-of-use, location of natural water sources and natural terrain/topographic features.

Use pattern mapping was completed on the allotment in 2008, 1993 and 1991 on the Badger Spring Allotment for the evaluation and reevaluation of the allotment. Use pattern mapping through the majority of the allotment was none to slight with an area of light and moderate use. Approximately 92% of the allotment was mapped as none to slight use, 3% as light use and 5% was mapped as moderate use. Use pattern mapping in 1991 was primarily slight to light use with some moderate use occurring in around the corrals. Use pattern mapping in 1993 was slight to light use.

Use pattern mapping was completed on the Butte Seeding Allotment for 2008, 1993, 1992, 1990, 1989 and 1988. Use pattern mapping was completed for Butte Seeding in 2008 use was slight to heavy. The heavy use was located near the waters in the central portion of the seeding. Use pattern mapping indicated areas of light, moderate and heavy use during the other years.

Use pattern mapping for Duckcreek was completed in 2008. 2008 use pattern mapping indicated none to slight use on 64% of the allotment and light use on 35% of the allotment.

Table 6. Summarization of Use Pattern Mapping on Duckcreek Allotment

Utilization Level	2008	1991	1990	1987
Slight	64%	56%	85%	48%
Light	36%	41%	14%	51%
Moderate		3%	1%	1%
Heavy				
Severe				

A portion of the Jakes Unit Trail is located in Giroux Wash and Indian Jake Allotments. Use pattern mapping was conducted on Giroux Wash in 1996 and showed slight to severe use. Most (80%) of the use on the allotment was slight to moderate use. Areas of heavy and severe use did occur and were attributed primarily to wild horses and cattle. Sheep use was not identified as contributing to the use.

Utilization collected in 2008 along the Preston Lund Trail was slight at Key Area PR03 in the Preston Allotment black sagebrush was 2.5 percent and Indian ricegrass was 5.7 percent. Utilization collected in 2008 at Douglas Point Allotment measured 8.4 percent on black sagebrush. Utilization was collected in 2008 on the North Cove Allotment and measured at 13 percent on winterfat. Use pattern mapping indicated the area along the Preston Lund Trail had slight to moderate use in 1998 and slight to heavy use in 1997. A compliance check in 2002 indicated moderate use levels over most of the Cove Allotment.

Utilization observed and collected in 2009 along the Jakes Unit Trail in Grioux Wash and Indian Jake Allotments was slight on black sagebrush.

Riparian

Proper functioning condition ratings on the springs were conducted in 2002, 2005 and 2009 on the Thirty Mile Spring Allotment and 2006 on Duckcreek Allotment.

The majority of the wetland/riparian areas within the Duckcreek Allotment are located on private ground. Only a few springs and a small, limited area along the Duck Creek drainage are located on BLM administered lands within the allotment (Shack Spring, Wellington Springs and Five Springs). By recently splitting the season of use into two separate grazing periods and rotating the use period every other year, duration of livestock use in any one year was reduced and had a positive benefit for the riparian areas especially during the June to July period.

Badger Spring, Butte Seeding, Jakes Unit Trail and Preston Lund Trail have no riparian areas.

Table 7. Riparian Proper Functioning Condition (Lentic and Lotic) Studies

Name	Location	Size	Allotment	Date	Function	Trend	Remarks
Clock Spring	UTM 4368246 N 0670338 E	.25 Acre	Thirty Mile Spring	11/16/05	PFC		Good vegetative cover, fence down.
Rocco Spring #2	UTM 4368407 N 0670193 E	.25 Acre	Thirty Mile Spring	11/16/05	PFC		Spring barely flowing, good vegetative cover, deer & elk sign
Rocco Spring #1	UTM 4368492 N 0670251 E	.5 Acre	Thirty Mile Spring	11/16/05	PFC		Fence & trough not functioning, good vegetative cover, riparian in good condition
Grassy Spring		3 Acres	Thirty Mile Spring	08/15/02			Site Dry
Unnamed seep	UTM 4365576 N 0669616 E	.125 Acres	Thirty Mile Spring	08/16/02	PFC		Dry seep.
Unnamed Spring	UTM 4367835 N 0669081 E	2 Acres	Thirty Mile Spring	08/15/02	Functional at Risk	Not Apparent	Drought conditions, grazing pressure from livestock and wildlife
Unnamed Spring	UTM 4366501 N 0668596 E		Thirty Mile Spring	08/15/02	PFC		

Name	Location	Size	Allotment	Date	Function	Trend	Remarks
Unnamed Spring	UTM 4367231 N 0669748 E	.25 Acres	Thirty Mile Spring	08/15/02	PFC		
Unnamed Spring	UTM 4366430 N 0669377 E	5 Acres	Thirty Mile Spring	08/15/02	NonFunc-tional		Wetland converting to dry meadow due to fractures in underlying geologic structure, water draining from surface.
Unnamed Spring	UTM 4367703 N 0668877 E		Thirty Mile Spring	08/15/02	PFC		2nd to 3rd dry year
Petes Spring	UTM 4365976 N 0669865 E	5 Acres	Thirty Mile Spring	08/16/02			No water at spring, not a mesic site.
Roadside Spring	UTM 4365969 N 0668127 E	.5 Acres	Thirty Mile Spring	08/15/02	PFC		
Anoud Spring Complex	UTM 4366846 N 0669738 E		Thirty Mile Spring	08/15/02	PFC		
Wildcat Spring	UTM 4365826 N 0671100 E	8 – 10 Acres	Thirty Mile Spring	08/16/02	Functional At Risk		
South Spring	UTM 4366499 N 0671732 E		Thirty Mile Spring	08/14/02	PFC		
Niagara Spring	UTM 4367677 N 0670924 E		Thirty Mile Spring	08/14/02	Functional At Risk	Not Apparent	Outside control of the manager, steepness of drainage channel
Unnamed Shade Spring Complex	UTM 4369171 N 0670687 E	.25 Acres	Thirty Mile Spring	08/14/02	NonFunc-tional		No water at site, dry year, spring area due to snow accumulation.
Smith Spring	UTM 4371727 N 0672892 E	5 Acres	Thirty Mile Spring	08/14/02	NonFunc-tional		Requires fencing and spring development.
Gleason Creek	UTM 4366002 N 0668049 E		Thirty Mile Spring	07/09/09	PFC		
Spring	UTM 4361692 N 0697227 E		Duckcreek	06/29/06	PFC		Aspen some rubber rabbitbrush, sagebrush, pinion and juniper at lower reaches. Recreational use
Unknown Spring Complex	UTM 4360606 N 0697938 E		Duckcreek	06/29/06	PFC		3 sources; aspen present some rubber rabbitbrush present, utilization by livestock
Five Springs	UTM 4257112 N 0698013 E		Duckcreek	06/29/06 07/08/09	PFC		3 sources; rubber rabbitbrush in the system, no willows or trees present, utilization by livestock

Ecological Condition

Ecological condition data was collected in 2003 at nine key areas on the Thirty Mile Spring Allotment. The sites rated at mid seral except TM-10 which rate at potential natural community. The sites were low in grass and forb composition, production was generally above expected production for favorable years.

Key Areas TM-1, TM-2, TM-4, TM-6 and TM-7 are in a silty 8-10 inch precipitation zone (028BY013NV). The communities are dominated by winterfat and were rated at 50% mid seral stage. The percent shrub composition is greater than desired and the percent grass and forb composition is less than desired.

Key Areas TM-5, TM-8 and TM-9 are in a coarse silty 6-8 inch precipitation zone (028BY084NV). The communities are dominated by winter fat. Two were rated at 30 percent and one was rated at 40 percent, mid seral stage. The percent shrub composition is greater that desired and the percent grass and forb composition is less than desired.

Key Area TM-10 is a saline terrace 5-8 inch precipitation zone (028BY047NV). The community is dominated by sickle saltbush and was rated at potential natural community at 80 percent. The percent shrub composition is greater than desired and the percent grass and forb composition is less than desired.

Ecological Site Inventory was completed on the Thirty Mile Spring allotment in 1991 and 1997. Analysis of the data indicates that the ecological status of the allotment as a percentage of total acres is as follows:

	1991	1997
Potential Natural Community (PNC)	0%	8%
Late Seral	20%	54%
Mid Seral	50%	28%
Early Seral	30%	10%

(This data and analysis reported in the Thirty Mile Spring Allotment Evaluation by the Technical Review Team.)

The Technical Review Team indicated the ecological status is high seral and potential natural community at the highest elevation. Uplands and alluvial fans are mid seral and high seral. Valley bottoms included large areas that were rated low seral in 1987 to 1991 and are in mid seral or high seral by 1999.

The Technical Review Team also indicated trend in ecological statue, is upwards except for areas of pinyon-juniper woodland expansion, upper elevation ecological sites of the Butte Mountains at the northwestern portion of the area, and localized areas of the valley bottom near the White Sage Well. Present mid seral and low seral status with a downward trend in ecological state occur mostly in areas of encroachment by pinyon or juniper trees. Recognition of upward

trend in ecological status followed soon after the substantial reduction in horse populations that occurred in 1990-91 and reduction in blacktailed jackrabbit populations from their peak in the mid 1980's. Livestock numbers remained the same with livestock following deferred-rotation grazing patterns at the time that ecological status increased.

Ecological condition was collected on the Badger Spring Allotment in 2008. Key Area BS-1, a course silty 6-8" p.z. 028BY084NV, had a composition by weight of 100% shrubs, no forbs and a trace of grasses. Production was low at 98 lbs per acre. Potential vegetative composition is about 55% grasses, 10% forbs and 35% shrubs. Line intercept composition was 11% grasses and 89% shrubs. Key Area BS-2, a silty 8-10"p. z. 028BY013NV, had a composition by weight of 100% shrubs, no forbs and a trace of grasses. Production was low at 374 lbs per acre, however in the range for an unfavorable year. The potential vegetative composition is about 30% grasses, 5% forbs and 65% shrubs. Line intercept composition was 100% shrubs. Key Area BS-3, a course silty 6-8" p.z. 028BY084NV, and had a composition by weight of 45% shrubs, trace of forbs and 55% grasses. Production was low at 226 lbs. per acre. Potential vegetative composition is about 55% grasses, 10% forbs and 35% shrubs. Line intercept composition was 40% grasses, 18 % forbs and 42% shrubs. This key area primarily has wild horse use.

Vegetative composition using line intercept was measured in 2008 on Butte Seeding at BS-01 the composition on the seeding was 5% grass (crested wheatgrass) and 95% shrub (black sagebrush) and the composition at BS-02 was 7% grasses (crested wheatgrass) and 93% shrubs (black sagebrush and rabbitbrush).

Ecological condition was collected in the Duckcreek Allotment in 2008 at Key Areas DC-1 and DC-2. DC-1 occurs in a loamy 10-12" p.z. 028BY007NV the area had a prescribed burn (Axehandle) the composition by weight is 88% grasses a trace of forbs and 12% shrubs. Potential vegetative composition is about 65% grasses, 10% forbs and 25% shrubs. Key Area DC-1 is at a low late seral stage at 52%. Production was 383 lbs per acre. DC-2 occurs in a shallow calcareous loam 10-14" p.z. 028BY006NV the composition by weight is 7% grasses, 2% forbs and 91% shrubs. Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs. Key Area DC-2 is at a mid seral stage at 39%. Production was 149 lbs per acre. The low production at both key areas and primarily due to below normal precipitation in addition the data was not gathered at peak production. The forb component would probably have been greater.

Vegetative composition using line intercept method was measure on Duckcreek Allotment in 2008. Key Area D-1 had 51% grasses and 49% forbs and no shrubs. Key Area D-2 had 6% grasses, 6% forbs and 88% shrubs. Key Area D-3 had 4% grasses, 9% forbs and 77% shrubs.

Ecological condition was collected along the Preston Lund Trail on Preston Allotment at PR03 in 2008. Grasses measured 1%, forbs measured 1% and shrubs measured 98%. Potential vegetative composition for the shallow calcareous loam (028BY011NV) is about 50% grasses, 5% forbs and 45% shrubs. The apparent trend is not apparent. Line intercept composition at study site PR-2 showed shrub composition at 100%.

Vegetative composition using line intercept was measured in 2008 along the Preston Lund Trail

on the Douglas Canyon Allotment the composition was trace of grasses, no forbs and 100% shrubs (black sagebrush). The site is a black sagebrush community, a shallow calcareous loam 8 – 10" p.z. (028BY011NV), the potential vegetative composition is 50% grasses, 5% forbs and 45% shrubs.

Vegetative composition using line intercept was measured in 2008 along the Preston Lund Trail on the Douglas Point Allotment the composition was 100% shrubs consisting of black sagebrush (98%) rabbitbrush (2%) and winterfat (Trace). The site is a black sagebrush community, a shallow calcareous loam 8 – 10" p.z. (028BY011NV), the potential vegetative composition is 50% grasses, 5% forbs and 45% shrubs.

Vegetative composition using line intercept was measured in 2008 along the Preston Lund Trail on the North Cove Allotment the composition was 100% shrubs consisting of winterfat. The site occurs on a winterfat site, a silty 8-10" p.z. (028BY013NV), the potential vegetative composition is 30% grasses, 5% forbs and 65% shrubs.

Vegetative composition using line intercept was measured in 2009 on along the Jakes Unit Trail on the Giroux Wash and Indian Jake Allotments. The composition at a study site in Indian Jake Allotment was 99% shrubs and 1% grasses. The vegetative composition at the Giroux Wash study site was 99% shrubs and 1% grasses. Both sites occur on a black sagebrush site, a shallow calcareous loam 8 – 10" p.z (028BY011NV), the potential vegetative composition is 50% grasses, 5% forbs and 45% shrubs.

Table 8. Vegetative composition using line intercept

Allotment; Key Area or Study Site	Location UTM (NAD 83 Zone 11)	Ecological Site	Present Situation Percent Composition	Potential Vegetative Percent Composition
Thirty Mile Spring; TM-1	659189 E 4389556 N	028BY013NV	0% Grasses 0% Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs
Thirty Mile Spring; TM-2	657600 E 4397212 N	028BY013NV	0% Grasses 0% Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs
Thirty Mile Spring; TM-3	657500 E 4376064 N	028BY030NV	45% Grasses 0% Forbs 55% Shrubs	55% Grasses 10% Forbs 35% Shrubs
Thirty Mile Spring; TM-4	658247 E 4391452 N	028BY013NV	0% Grasses 0% Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs
Thirty Mile Spring; TM-5	654864 E 4393098 N	028BY084NV	15% Grasses 0% Forbs 85% Shrubs	55% Grasses 10% Forbs 35% Shrubs
Thirty Mile Spring; TM-6	657902 E 4394080 N	028BY013NV	0% Grasses 0% Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs

Allotment; Key Area or Study Site	Location UTM (NAD 83 Zone 11)	Ecological Site	Present Situation Percent Composition	Potential Vegetative Percent Composition
Thirty Mile Spring; TM-7	659820 E 4398557 N	028BY013NV	0% Grasses 0% Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs
Thirty Mile Spring; TM-8	655482 E 4400520 N	028BY084NV	0% Grasses 0% Forbs 100% Shrubs	55% Grasses 10% Forbs 35% Shrubs
Thirty Mile Spring; TM-9	670302 E 4382050 N	028BY084NV	0% Grasses 0% Forbs 100% Shrubs	55% Grasses 10% Forbs 35% Shrubs
Thirty Mile Spring; TM-10	661925 E 4386739 N	028BY047NV	0% Grasses 0% Forbs 100% Shrubs	15% Grasses 5% Forbs 80% Shrubs
Thirty Mile Spring; TM-14	670593 E 4371181 N	028BY046NV	28% Grasses 0% Forbs 72% Shrubs	40% Grasses 10% Forbs 50% Shrubs
Butte Seeding; BS-1	664730 E 4375277 N	Not Applicable	5% Grasses 0% Forbs 95% Shrubs	Not Applicable
Butte Seeding; BS-2	664730 E 4375277 N	Not Applicable	7% Grasses 0% Forbs 93% Shrubs	Not Applicable
Duckcreek; D-1	694890 E 4359784 N	028BY007NV	52% Grasses 48% Forbs 0% Shrubs	65% Grasses 10% Forbs 25% Shrubs
Duckcreek; D-2	697547 E 4358121 N	028BY006NV	6% Grasses 6% Forbs 88% Shrubs	60% Grasses 5% Forbs 35% Shrubs
Duckcreek; D-3	695922 E 4364641 N	028BY006NV	4% Grasses 9% Forbs 75% Shrubs 11% Juniper	60% Grasses 5% Forbs 35% Shrubs and trees
Badger Spring; BS-1	657928 E 4352092 N	028BY084NV	11% Grasses 0% Forbs 89% Shrubs	55% Grasses 10% Forbs 35% Shrubs
Badger Spring; BS-2	657746 E 4348960 N	028BY013NV	Trace Grasses Trace Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs
Badger Spring; BS-3	660162 E 4351758 N	028BY084NV	40% Grasses 18% Forbs 42% Shrubs	55% Grasses 10% Forbs 35% Shrubs
Preston Lund Trail (Preston);	663167 E 4315661 N	028BY011NV	Trace Grasses 0% Forbs	50% Grasses 5% Forbs

Allotment; Key Area or Study Site	Location UTM (NAD 83 Zone 11)	Ecological Site	Present Situation Percent Composition	Potential Vegetative Percent Composition
PR02			100% Shrubs	45% Shrubs
Preston Lund Trail (Preston); PR03	664239 E 4312111 N	028BY011NV	1% Grasses 1% Forbs 98% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (Douglas Canyon); PLTDC-01	662594 E 4302865 N	028BY011NV	Trace Grasses 0% Forbs 100% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (Douglas Point); PLTSSDP-01	661771 E 4295307 N	028BY011NV	Trace Grasses 0% Forbs 100% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Preston Lund Trail (North Cove); PLTSSC-01;	659146 E 4291850 N	028BY013NV	Trace Grasses Trace Forbs 100% Shrubs	30% Grasses 5% Forbs 65% Shrubs
Jakes Unit Trail (Giroux Wash); JUTSSGW-1	663395 E 4321440 N	028BY011NV	1% Grasses 0% Forbs 99% Shrubs	50% Grasses 5% Forbs 45% Shrubs
Jakes Unit Trail (Indian Jake); JUTSSIJ 01	656361 E 4337943 N	028BY011NV	1% Grasses 0% Forbs 99% Shrubs	50% Grasses 5% Forbs 45% Shrubs

Cover

Cover basal and crown meets or exceeds the cover identified for specific range sites in the Major Land Resource Area 28B, Central Nevada Basin and Range Nevada Ecological Site Descriptions on the Thirty Mile Spring Allotment. Cover was collected in Thirty Mile Spring Allotment in 2003 and is summarized in the following table.

Table 9. Thirty Mile Spring Cover

Key Area	Range Site	Percent Vegetative Cover	Range Described
TM – 1	028BY013NV	10.7	10 – 20
TM – 2	028BY013NV	25.3	10 – 20
TM – 3	028BY030NV	26	25 – 35
TM – 4	028BY013NV	22	10 – 20
TM – 5	028BY084NV	10.4	10 – 20
TM – 6	028BY013NV	24.5	10 – 20
TM – 7	028BY013NV	14.8	10 – 20
TM – 8	028BY084NV	15.7	10 – 20
TM – 9	028BY084NV	19.2	10 – 20

Key Area	Range Site	Percent Vegetative Cover	Range Described
TM – 10	028BY047NV	16.1	5 – 10
TM – 14	028BY046NV	51.1	40 – 60

Cover using the line intercept method was collected at Bader Spring in 2008. Cover at Key Area BS-1 was 4.86 percent vegetation and 13.22 percent litter. Total cover was 18.08 percent. The site is a winterfat community (028BY084NV Coarse Silty 6 – 8" p.z.), approximate ground cover (basal and crown) for the site is 10 to 20 percent. Cover at Key Area BS-2 was 10.56 percent vegetation and 17.05 percent litter. Total cover was 27.61 percent. The site is a winterfat community (028BY013NV Silty 8 – 10" p.z.), appropriate ground cover (basal and crown) for the site is 10 to 20 percent. Cover at Key Area BS-3 was 2.6 percent vegetation and 22.76 percent litter. Total cover was 25.36 percent. Appropriate ground cover (basal and crown) for the winterfat community (028BY084NV Silty 6 - 8" p.z.) is 10 to 20 percent. The low vegetative cover at BS-1 and BS-3 is primarily a factor of drought.

Cover using the line intercept method was collected at Butte Seeding Key Area BS-1 in 2008 and measured 8.95 percent vegetation and 17.28 percent litter. Total cover was 26.23 percent. Cover at Key Area BS-2 was 8.51 percent vegetation and 18.07 percent litter. Total cover was 26.58 percent.

Cover using the line intercept method was collected at the key areas on Duckcreek Allotment in 2008. Cover at Key Area D-1 was 5.33 percent vegetation and 22.95 percent litter. Total cover was 28.28 percent. The site is a big sagebrush community (28BY007NV Loamy 10-12" precipitation zone (p.z.)), approximate ground cover (basal and crown) for the site is 20 to 30 percent. Cover at Key Area D-2 was 10.65 percent vegetation and 26.67 percent litter. Total cover was 37.32 percent. The site is a black sagebrush community (028BY006NV Shallow Calcareous Loam 10 – 14" p.z.), approximate ground cover (basal and crown) for the site is 15 to 25 percent. Cover at Key Area D-3 was 9.8 percent vegetation and 34.85 percent litter. Total cover was 44.65 percent. The site is a black sagebrush community (028BY006NV Shallow Calcareous Loam 10 – 14" p.z.) approximate ground cover (basal and crown) for the site is 15 to 25 percent.

Cover was collected along the Preston Lund Trail on Douglas Canyon in 2008 and measured 36.63 percent vegetation and litter was 9.26 percent the total cover was 45.89 percent. The site is a black sagebrush community (Shallow Calcareous Loam 8 – 10" p.z. 028BY011NV), approximate ground cover (basal and crown) for the site is 15 to 20 percent.

Cover was collected along the Preston Lund Trail on Douglas Point in 2008 and measured 36.25 percent vegetation and litter was 3.51 percent the total cover was 39.96 percent. The site is a black sagebrush community (Shallow Calcareous Loam 8 – 10" p.z. 028BY011NV), approximate ground cover (basal and crown) for the site is 15 to 20 percent.

Cover was collected along the Preston Lund Trail on North Cove Allotment in 2008 and measured 19.97 percent vegetation, litter was 2.3 percent and the total cover was 22.27 percent. The site is a winterfat community (Silty 8-10" p.z. 028BY013NV), approximate ground cover

(basal and crown) for the site is 10 to 20 percent.

Cover was collected at two study sites along the Preston Lund Trail in the Preston Allotment in 2008. Study site PR-2 measured 15.79 percent vegetation and litter was 10.36 percent. Total cover for the location was 26.15 percent. Study site PR-3 measured 11.9 percent vegetation and litter was 6.16 percent. Total cover for the location was 18.06 percent. Both sites are a black sagebrush community (Shallow Calcareous Loam 8 – 10" p.z. 028BY011NV), approximate ground cover (basal and crown) for the sites is 15 to 20 percent.

Cover was collected along the Jakes Unit Trail on the Giroux Wash Allotment in 2009 and total vegetative cover was measured at 33.68 percent, in addition litter measured 6.83 percent. Total cover is 40.69 percent. The site is a black sagebrush community (Shallow Calcareous Loam 8 – 10" p.z. 028BY011NV), approximate ground cover (basal and crown) for the site is 15 to 20 percent. Moss occupied a portion of the site. Antelope and mule deer sign (tracks and scat) was observed. The soils are stable with grasses and cryptogrammic crusts in the interspaces.

Cover was collected along the Jakes Unit Trail on the Indian Jake Allotment in 2009 and total basal and crown cover was measured at 28.11 percent, in addition litter measured 5.57 percent. Total cover is 33.68 percent. The site is a black sagebrush community (Shallow Calcareous Loam 8 – 10" p.z. 028BY011NV), approximate ground cover (basal and crown) for the site is 15 to 20 percent. Wild horse, antelope and mule deer sign (tracks and scat) was observed. The soils are stable with grasses and cryptogrammic crusts in the interspaces.

Table 10. Line intercept cover at key areas and study sites

Allotment: Key Area: UTM Location	Ecological Site	Vegetation Cover (basal & canopy)	Litter	Rock	Total Percent Cover	Range Described (basal & canopy)
Butte Seeding; BS-1; 664730 E 4375277 N	Not Applicable	8.95%	17.28%	0%	26.23 %	Not Applicable
Butte Seeding; BS-2; 664730 E 4375277 N	Not Applicable	8.51%	18.07%	0%	26.58%	Not Applicable
Duckcreek; D-1; 694890 E 4359784 N	028BY007NV	5.33%	22.95%	0%	28.28%	20–30%
Duckcreek; D-2; 697547 E 4358121 N	028BY006NV	10.65%	17.05%	0%	37.32%	15–25%
Duckcreek; D-3;	028BY006NV	9.8%	34.85%	0%	44.65%	15–25%

Allotment: Key Area: UTM Location	Ecological Site	Vegetation Cover (basal & canopy)	Litter	Rock	Total Percent Cover	Range Described (basal & canopy)
695922 E 4364641 N						
Badger Spring; BS-1 657928 E 4352092 N	028BY084NV	4.86%	13.22%	0%	18.8%	10–20 %
Badger Spring; BS-2; 657746 E 4348960 N	028BY013NV	10.56%	17.05%	0%	27.61%	10-20%
Badger Spring; BS-3; 660162 E 4351758 N	028BY084NV	2.6%	22.78	0%	25.36%	10-20%
Preston Lund Trail (Preston); PR02; 663167 E 4315661 N	028BY011NV	15.79%	10.36%	0%	26.15%	15-20%
Preston Lund Trail (Preston); PR03; 664239 E 4312111 N	028BY011NV	11.9%	6.16%	0%	18.06%	15-20%
Preston Lund Trail (Douglas Canyon); PLTDC-01; 662594 E 4302865 N	028BY011NV	36.63%	9.26%	0%	45.89%	15-20%
Preston Lund Trail (Douglas Point); PLTSSDP-01; 661771 E 4295307 N	028BY011NV	36.25%	3.51%	.2%	39.96%	15-20%
Preston Lund Trail (North Cove); PLTSSC-01; 659146 E	028BY013NV	20.07%	2.3%	0%	22.37%	10-20%

Allotment: Key Area: UTM Location	Ecological Site	Vegetation Cover (basal & canopy)	Litter	Rock	Total Percent Cover	Range Described (basal & canopy)
4291850 N						
Jakes Unit Trail (Giroux Wash); JUTSSGW-1 663395 E 4321440 N	028BY011NV	33.68%	6.83	0%	40.69%	15-20%
Jakes Unit Trail (Indian Jake); JUTSSIJ 01; 656361 E 4337943 N	028BY011NV	28.11%	5.57%	0%	33.68%	15-20%

Frequency

Quadrat frequency trend studies were initially conducted at ten key sites on the Thirty Mile Spring Allotment during the summer of 1995. One site has been established on the Badger Spring Allotment at T. 17 N., R. 60 E., Sec 36 NENW (south of key site BS-1) in 1993.

Precipitation Data

Data from the National Oceanic and Atmospheric Administration (NOAA) recording Station at Yelland Air Field in Ely, Nevada is being used for this assessment. The average annual precipitation from 1971 to 2000 is 9.87 inches.

Table 11. National Oceanic and Atmospheric Administration (NOAA) recording Station at Yelland Air Field in Ely, Nevada

YEAR	ANNUAL PRECIP. (inches)	YEAR	ANNUAL PRECIP. (inches)	YEAR	ANNUAL PRECIP. (inches)
1980	12.78	1990	8.76	2000	10.12
1981	10.29	1991	9.98	2001	6.7
1982	14.47	1992	9.78	2002	4.52
1983	14.84	1993	10.06	2003	8.54
1984	14.84	1994	9.22	2004	8.99
1985	9.89	1995	12.1	2005	13.0
1986	8.6	1996	7.31	2006	9.26
1987	12.3	1997	9.5	2007	6.76
1988	8.66	1998	12.32	2008	7.42
1989	6.66	1999	6.28		

Precipitation data can be used to calculate a yield index for each year (Sneva et al. 1983). In calculating the yield index, the first step is to calculate the crop yield (effective precipitation). For the Intermountain Big Sagebrush Region this includes precipitation from September through June.

Precipitation data was used in the formulation of a yield index in the calculation of a long term stocking rate. The first step was to calculate the crop yield, the effective annual precipitation for plant growth occurring between September and June of each year. The crop yield for each year was arrayed to determine the averaged median long term crop yield. The average crop yield for the Yelland Air Field reporting station was 8.46 inches. The individual yearly crop yields during the evaluation period were then divided by the long term average crop yield to determine a precipitation index for each year. The yield index was then determined from the precipitation index by using the linear regression equation $\hat{Y} = -23 + 1.23X$, where $\hat{Y}$ represents the yield index and x represents the precipitation index. 1/ Table 12 shows the precipitation and yield indices for the Yelland Air Field data.

The yield index for 2007 was 59. Factoring precipitation (the yield index) into the utilization level to derive a stocking rate for the seeding indicates the stocking level is consistent with the level identified in the evaluation.

Precipitation was lower than normal in 2007 and 2008. The crop yield was 5.62 inches in 2007 and 5.46 inches in 2008. The crop yield is considered the effective precipitation which falls between September and June. The normal value or thirty year average, is 8.46 inches. The precipitation index for 2007 was 66 and for 2008 it was 65 or approximately 2/3rds the normal precipitation. The yield index for 2007 was 59 and for 2008 it was 57. The yield index is used to predict the amount of forage expected as a result of the effective precipitation amount for a given year. A value below 100 indicates less predicted forage production than a normal year as result of decreased precipitation. A value higher than 100, indicates increased predicted forage production resulting from the increased precipitation. Increased production as a result of precipitation would likely increase the percent crown cover.

1/ Sneva, Forest, C. M. Britton. August 1983. Adjusting and forecasting herbage yields in the Intermountain Big Sagebrush Region of the Steppe Province. Agricultural Experimental Station, Oregon State University, Corvallis. Station Bulletin 659, Page 61.

Table 12. Crop Yield, Precipitation Index and Yield Index for Yelland Field Reporting Station.

YEAR	CROP YIELD	PRECIPITATION INDEX	YIELD INDEX
1995	12.77	151	163
1996	5.59	66	58
1997	7.84	93	91
1998	10.37	123	128
1999	7.07	84	80
2000	6.70	79	74

Table 12. Crop Yield, Precipitation Index and Yield Index for Yelland Field Reporting Station.

YEAR	CROP YIELD	PRECIPITATION INDEX	YIELD INDEX
2001	5.15	61	52
2002	4.41	52	41
2003	6.89	81	77
2004	5.43	64	56
2005	12.2	144	154
2006	8.32	98	98
2007	5.62	66	59
2008	5.46	64	56

Overview of Allotments

Thirty Mile Spring Allotment

Thirty Mile Spring Allotment is a cattle and sheep allotment with a total active use of 8,405 AUMs with no suspended use. The season of use is from April 15 to February 28. An "Agreement for Changes in Livestock Grazing Use and Establishment of Appropriate Management Level for the Thirty Mile Spring Allotment" was issued in June 2001.

The Thirty Mile Spring Allotment consists of 178,763 acres of which 3,080 acres are privately owned and the remainder under Bureau of Land Management administration. The allotment is located in White Pine County approximately 20 miles west of Ely, Nevada within the Great Basin physiographic region. Elevation varies from 6,230 feet in Butte Valley to 9,540 feet in the Egan Range. Annual precipitation ranges from as little as five inches in the valley bottoms to over twenty inches at the higher elevations on the allotment. Precipitation occurs as winter snow or spring/fall thundershowers and rains. July and August are normally very hot, dry months. Annual air temperature ranges from 40 to 49 degrees Fahrenheit. The frost-free season ranges from 40 to 120 days.

The vegetation within the allotment is diverse with salt desert shrub/sagebrush/grass plant communities dominating the lower elevations while sagebrush/mountain shrub/ grass/pinyon-juniper/mountain mahogany plant communities dominate the higher elevation sites.

The majority of the natural water sources within the Thirty Mile Spring Allotment are located in the southern portion of the allotment in the Gleason Creek drainage and the Bothwick area. Most of the water sources are springs and seeps located on federal lands but some are located on private ground. Spring flows vary annually depending upon winter snowfall accumulations and/or duration of drought cycles. Springs with limited flow capacity will stop flowing in dry years. During extended drought periods even good springs may go dry. Several stockwater wells have been developed in Butte Valley by the livestock permittee to support the livestock operation. Gleason Creek is the only perennial creek found on the allotment.

The Thirty Mile Spring Allotment lies within portions of the Butte Wild Horse Herd Management Area and the Buck and Bald Wild Horse Herd Management Area. A Notice of Final Multiple Use Decision for the Thirty Mile Spring Allotment portion of the Butte Wild Horse Herd Management Area was issued July 19, 2001 establishing an appropriate management level (AML) of 12 wild horses yearlong (144 AUMs). A Notice of Final Multiple Use Decision for the Thirty Mile Spring Allotment portion of the Buck and Bald Wild Horse Herd Management Area was issued July 19, 2001 establishing an appropriate management level (AML) of 49 wild horses yearlong (588 AUMs). The Ely District Record of Decision and Approved Resource Management Plan (RMP) signed August 2008 combined the Buck and Bald HMA and Butte HMA into the Triple B HMA. The initial Appropriate Management Level for the Triple B HMA is 250-518.

Badger Spring

Badger Spring Allotment is a sheep allotment with a total active use of 1,412 AUMs with no suspended use. The season of use is from April 15 to November 30. A Final Multiple Use Decision (FMUD) was issued for the Badger Spring Allotment on December 24, 1992. The Ely District Record of Decision and Approved Resource Management Plan (RMP) signed August 2008 dropped herd management area status for the Jakes Wash HMA.

The Badger Spring Allotment contains approximately 24,125 acres under Bureau of Land Management administration. The allotment is located in White Pine County approximately 25 miles west of Ely, Nevada within the Great Basin physiographic region. Elevation varies from 6,280 feet in Jakes Valley to 9,240 feet in the Egan Range. Annual precipitation ranges from as little as five to eight inches in the valley bottoms to over twenty inches at the higher elevations on the allotment. Precipitation occurs as winter snow or spring/fall thundershowers and rains. July and August are normally very hot, dry months. Annual air temperature ranges from 42 to 48 degrees Fahrenheit. The frost-free season ranges from 85 to 110 days.

The vegetation within the allotment is diverse with black sagebrush/winterfat/grass plant communities dominating the lower elevations while Wyoming big sagebrush /grass/pinyon-juniper plant communities dominate the higher elevation sites. The major plant components within the allotment are singleleaf pinyon pine, Utah juniper, black sagebrush, Wyoming big sagebrush and winterfat. Together, they are the dominant vegetative species on the majority of the Badger Spring Allotment.

Butte Seeding Allotment

Butte Seeding Allotment is a cattle allotment with a total permitted use of 350 AUMs with 75 AUMs suspended use and 275 AUMs active use. The season of use is from June 1 to October 30. A Final Multiple Use Decision (FMUD) was issued for the Butte Seeding Allotment on January 27, 1992.

Butte Seeding covers approximately 1,580 acres of BLM public land, with approximately 1,035 acres of crested wheatgrass and 545 acres of untreated Wyoming big sagebrush. The allotment is located in White Pine County approximately 20 miles west of Ely, Nevada within the Great Basin physiographic region. Elevation in the seeding varies from approximately 6,400 feet to 6,600 feet. Annual precipitation averages 8 inches on the allotment. Precipitation occurs as winter snow or spring/fall thundershowers and rains. July and August are normally very hot, dry months. Annual air temperature ranges from 42 to 48 degrees Fahrenheit. The frost-free season ranges from 85 to 110 days.

Duckcreek Allotment

Permitted use for Duckcreek Allotment is 321 AUMs with 321 active use AUMs and 0 AUMs historic suspended, the season of use is June 1st to October 31th. The Duckcreek Allotment Management Action Selection Report (MASR) was issued September 10, 1992. The MASR

recommended that the active use remain at 498 AUMs of sheep use. The season of use remained unchanged at June 1 to October 31. An environmental assessment was completed for a conversion of sheep AUMs to cattle AUMs. An analysis was made analyzing data of soil map units, corresponding range sites, forage production, and ecological condition data collected on the allotment. Based on this data analysis, 321 AUMs of cattle use would be authorized on the Duckcreek Allotment with a season of use from June 1 to October 31.

The Duckcreek Allotment is located in White Pine County approximately seven miles northeast of Ely, Nevada on the east side of the Duckcreek Range in Duckcreek Basin. Elevation ranges from approximately 6,400 feet along Duck Creek to over 9,200 feet in the Duckcreek Range. Annual precipitation ranges from ten inches at the lower elevations to twenty inches at the higher elevations on the allotment. Precipitation occurs as winter snow or spring/fall thundershowers and rains. July and August are normally very hot, dry months. A significant portion of the land within the allotment is privately owned. The allotment is comprised of 12,611 total acres (9,531 acres public and 3,080 acres private). The majority of the springs and most of the land adjacent to Duck Creek are in private ownership. Most of the private ground is unfenced with the exception of the Berry Creek Pasture. Livestock grazing on the unfenced private lands have access to federal range. Much of the grazing by livestock within this allotment occurs on the private parcels. Berry Creek and Duck Creek are the two major streams within the allotment. Portions of Berry Creek are intermittent.

Vegetation is characterized by Great Basin sagebrush-grass and pinyon-juniper woodland plant communities. Vegetation at the lower elevations consists of Wyoming big sagebrush and black sagebrush, Indian ricegrass, Thurbers needlegrass, bottlebrush squirreltail, Sandberg bluegrass with scattered juniper trees. Vegetation at the mid-level elevations consists of mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass, Great Basin wildrye, pinyon pine and Utah juniper. At higher elevations, mountain mahogany, quaking aspen and pinyon pine increase in density.

Adjudicated Trails

2704534 trails sheep along two adjudicated trails associated with the term grazing permit for the northern allotments, Jakes Unit Trail and Preston Lund Trail. 2704534 only trail along a small portion of the Jakes Unit Trail. Once the sheep enter the Badger Spring and Thirty Mile Springs Allotments the sheep are no longer considered to be trailing. The trail does cross through these allotments for another operator.

Jakes Unit Trail

Jakes Unit Trail is a sheep trail with a total permitted use of 466 AUMs with no suspended use for 2704534. The season of use is from April 1st to April 30th and November 1st to November 30th. There has been no Final Multiple Use Decision (FMUD) issued for the Jakes Unit Trail.

The Jakes Unit portion of the trail for 2704534 begins at the boundary of Badger Spring Allotment and Indian Jake Allotment. There is one other permittee that uses this trail. The portion of the trail 2704534 trails on is approximately 18 miles in length and one mile in width

and crosses through the Indian Jake and Giroux Wash Allotments. The trail is located west of the wash and winterfat bottoms in the black sagebrush, Wyoming sagebrush, and pinyon-juniper communities. The trail is well marked with juniper posts across the Giroux Wash Allotment. The trail ends south of U.S. Highway 6 where sheep cross into the Preston Allotment. Two sheep operators use this area for sheep trailing, the other operator has active use in the Giroux Wash Allotment.

The trail is located in White Pine County approximately 15 miles southwest of Ely, Nevada within the Great Basin physiographic region. Elevation varies from 6,500 feet in Jakes Valley to 6,000 feet in the White River Valley. Annual precipitation ranges from ten to twelve inches in the valley bottoms and higher elevations along the trail. Precipitation occurs as winter snow or spring/fall thundershowers and rains. July and August are normally very hot, dry months. Annual air temperature ranges from 47 to 53 degrees Fahrenheit. The frost-free season ranges from 110 to 120 days.

The vegetative communities along Jakes Unit Trail are primarily black sagebrush, black sagebrush and Utah juniper and Wyoming big sagebrush communities.

Preston Lund Trail

Preston Lund Trail is a sheep trail with a total permitted use of 427 AUMs with no suspended use for 2704534. The season of use is from April 1st to April 30th and November 1st to November 30th. There has been no Final Multiple Use Decision (FMUD) issued for the Preston Lund Trail.

The Preston Lund Trail is used to trail sheep by three operators. The trail begins south of U.S. Highway 6 on the Preston Allotment. The trail proceeds south for approximately 29 miles crossing through Preston, Douglas Canyon, Douglas Point, North Cove, Cove, East Wells and Wells Station Allotments. When the trail enters Hardy Springs Allotment the Preston Lund Trail ends and the White River Trail begins at the boundary between the old Preston Lund and White River Planning Units. The east and west boundaries of the trail are marked by cedar posts. Entry points between fenced allotments are marked by double gates.

The trail is located in White Pine and Nye Counties approximately 20 to 45 miles southwest of Ely, Nevada within the Great Basin physiographic region. Elevation varies from 6,000 feet to 5,300 feet in White River Valley. Annual precipitation ranges from eight to twelve inches in the valley bottom and benchland. Precipitation occurs as winter snow or spring/fall thundershowers and rains. July and August are normally very hot, dry months. Annual air temperature ranges from 45 to 53 degrees Fahrenheit. The frost-free season is from 90 to 130 days.

The vegetative communities along the Preston Lund Trail using the soil survey and personal observation are primarily associated with the black sagebrush and Wyoming big sagebrush, big sagebrush, black greasewood and winterfat communities.

All allotments

The affected environment for these allotments is described in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).

The Thirty Mile Spring, Badger Spring, Butte Seeding and Duckcreek Allotments and the Jakes Unit Trail and Preston Lund Trail occur within Major Land Resource Area (MLRA) 028B, the Central Nevada Basin and Range Area, first described by the U. S. Department of Agriculture in the early 1960's. The Soil Conservation Service (now Natural Resource Conservation Service (NRCS)) has extensively described the topography, geology, soils, climate, and range sites of each MLRA. The NRCS periodically updates information concerning each MLRA as new data becomes available. NRCS data will be used in this analysis to assess watershed conditions. The NRCS website is: *http://www.nv.nrcs.usda.gov*

Background Livestock Information

An "Agreement for Changes in Livestock Grazing Use and Establishment of Appropriate Management Level for the Thirty Mile Spring Allotment" was issued in June 2001. This agreement tiered from the Thirty Mile Spring Allotment Coordinated Management Plan as written by the White Pine County (Nevada) Coordinated Resource Management Steering Committee. The agreement carried forth actions and recommendations identified through the Thirty Mile Spring Allotment Technical Review Team (TRT) for both livestock grazing management and the wild horse AML within the Thirty Mile Spring Allotment portion of the Buck and Bald HMA and the Butte HMA The agreement did not make changes to active use or grazing management. The agreement did specify active use for the summer range and winter range which was not specifically identified on the term permit. Notice of Final Multiple use Decision for the Thirty Mile Spring Allotment portion of the Butte Wild Horse Herd Management Area was issued June 19, 2001.

An assessment of rangeland health and a review of the monitoring data was conducted associated with the "Agreement for Changes in Livestock Grazing Use and Establishment of Appropriate Management Level for the Thirty-Mile Spring Allotment" (June 2001). Monitoring data included utilization, use pattern mapping, frequency trend and ecological condition.

A Final Multiple Use Decision (FMUD) was issued for the Badger Spring Allotment on December 24, 1992. The Final Multiple Use Decision proposed no changes in livestock, wildlife and wild horse use since the land use plan objectives were being met for existing use. The decision established the appropriate management level for wild horses for the portion of the Jakes Wash Herd Management area within the Badger Spring Allotment.

A Final Multiple Use Decision (FMUD) was issued for the Butte Seeding Allotment on January 27, 1992. The Final Multiple Use Decision reduced the existing cattle permit on the crested wheatgrass seeding allotment from 350 to 275 AUMs with a season of use from 6/1 to 10/30, and stipulated that flexibility in cattle numbers will be allowed up to a maximum of 200 head not to

exceed the maximum active use. A third year re-evaluation was completed February 11, 1994 which implemented the third year reduction.

A Management Selection Report was completed on September 10, 1992 for the Duckcreek Allotment and a three year re-evaluation summary was also completed for the allotment. The three year re-evaluation indicated the original decision was sufficient to meet the objectives identified in the management action selection report. Both documents maintained the existing active use and season of use. The Duckcreek Allotment Management Action Selection Report (MASR) was issued September 10, 1992. The MASR recommended that the active use remain at 498 AUMs of sheep use. The season of use remained unchanged at June 1 to October 31.

In the mid 1990's, the permittees entered into a Coordinated Resource Management Process (CRMP) with the BLM, Forest Service (USFS), Nevada Division of Wildlife (NDOW) and other interested parties to develop a plan addressing all resource issues on both allotments, and the Pescio Brothers adjoining USFS Berry Creek Allotment. The Duckcreek Technical Review Team (TRT) was formed to develop a Coordinated Resource Management Plan for this area. However, after approximately two years of effort to develop a CRM plan, the parties were unable to come to a consensus with respect to a livestock grazing management system and grazing schedule on the allotments as a unit.

The DR/FONSI for Duckcreek Allotment Sheep to Cattle Conversion (EA No. NV-040-03-020) authorized 321 AUMs of cattle use on the Duckcreek Allotment. The season of use consists of two grazing periods rotated every other year from June 1st to July 31st and August 1st to October 31st. The conversion of sheep AUMs to cattle AUMs was determined after an analysis of soil map units, corresponding range sites, forage production, and ecological condition data collected on the allotment.

Two permittees have active use on the Jakes Unit Trail for trailing sheep south in the fall time to winter permits and north in the spring to summer permits. Jakes Unit Trail for is located in Giroux Wash and Indian Jake Allotments, both had allotment evaluations completed in 2001.

Three permittess have active use on the Preston Lund Trail for trailing sheep south in the fall and north in the spring. The trail is located within a portion of the following allotments; Preston, Douglas Canyon, Douglas Point, North Cove, Cove, East Wells and Wells Station Allotments. Final Multiple Use Decisions were issued for Douglas Point (1990), North Cove (1992, 1997), Cove (1996), East Wells (1997) and Wells Station Allotments.

Currently 2704534 trails sheep south in the fall to the winter use areas and trucks the sheep north to the Jakes Unit Trail or the summer use areas in the spring.

Livestock Grazing Management Practices

The implementation of a variety of livestock management practices by the permittee on the Thirty Mile Spring Allotment has resulted in the overall achievement of the allotment specific objectives as well as meeting the standards for rangeland health established for the allotment. These management practices include water hauling, active herding of sheep, use of salt and

mineral block, and dividing cattle into smaller groups and scattering them over the whole allotment. These practices continue to assist in the maintenance and/or improvement of the native range.

The permittee trucks cattle from the winter allotments to Thirty Mile Spring Allotment in late April to early May. Approximately 350 head are turned out. Half of the herd are put into the Butte Seeding and the other half are turned out in the vicinity of Silver Tank and the "Burn" just south of the Thirty Mile Ranch.

The cows initially placed in the Butte Seeding remain there until early June. Half the cows are then trailed to the summer range in Cottonwood, Rock Spring and Gleason Creek drainages in the southern portion of the Thirty Mile Spring Allotment. The other half are trailed to Piscevich Summit, Toner Spring and Jones Canyon area for the summer. The two herds remain in their respective areas until the end of September. In early October, both herds are trailed into Butte Valley and allowed to graze the winterfat bottoms in the vicinity of White Sage Well, Old Well and 2704534 Well. In early November, the cattle are gathered and trucked to the winter allotments down south.

The cows initially turned out in the vicinity of Silver Tank and the "Burn" remain there until early June. The herd is then moved to Machine Drilling Canyon and the Robber Roost area north of the Thirty Mile Ranch. The herd stays in this general area until the end of September. In early October, the cows are trailed to Butte Valley and graze the winterfat bottoms in the vicinity of White Sage Well, Old Well and 2704534 Well. In early November, the cattle are gathered and trucked to the winter allotments down south.

A third group of cows spend the summer grazing on 2704534's private ground in Duckcreek Basin (east of Ely) and Duckcreek Allotment. They are trucked to the Thirty Mile Spring Allotment in early September and are turned out into Butte Valley in the Combs Creek area in the eastern portion of the allotment. They stay there until early October then moved to the White Sage Well area for a month before being trucked south to winter range with the rest of the herd.

The sheep operation consists of three bands. The entire herd is trailed north from the winter allotments along adjudicated sheep trails to the Thirty Mile Spring Allotment in mid April. The three bands are taken to different areas of Butte Valley. The early lambers head for the northern portion of the allotment around 2704534 Well and Old Well. By late May the band moves toward Middle Canyon. They summer in the Butte Mountains in the western portion of the allotment. In late October they are trailed to White Sage Well and begin the trail south to winter range the first week of November.

The late lambers arrive in Butte Valley shortly after the early lambers. They remain in the valley until June. They are then trucked to Duckcreek Allotment in Duckcreek Basin before moving onto the Forest Service ground to summer. This band will be trailed back to the Thirty Mile Spring Allotment over Piscevich Summit and through the Combs Creek area in mid October. This band begins to trail south to winter range the first week of November.

The third band arrives in the valley by mid to late April. They stay in the vicinity of White Sage Well until the end of June. In early July the band is trailed to Cottonwood, Gleason Creek and Bothwick drainages for the summer. Here they graze both private ground as well as federal range. In mid October this band is trailed back into Butte Valley before heading south to winter range during the first week of November.

Even though Thirty Mile Spring Allotment as a whole is in good condition, monitoring data indicated riparian objectives are not being met along Gleason Creek due to livestock grazing. An agreement was reached with the permittee to construct a fence around the portion of the Gleason Creek drainage that has continually been over grazed. Livestock were prohibited from using the area within the exclosure. Since livestock are the primary cause for missing riparian objectives on Gleason Creek, fencing will help in achieving the riparian objectives.

Guidelines for Nevada's Northeastern Great Basin Area (Thirty Mile Spring, Badger Spring, Butte Seeding, Duckcreek Allotments, Jakes Unit Trail and a portion of the Preston Lund Trail)

GUIDELINES;

1.1 Management practices will maintain or promote upland vegetation and other organisms and provide for infiltration and permeability rates, soil moisture storage, and soil stability appropriate to the ecological site within management units.

1.2 When grazing practices alone are not likely to restore areas of low infiltration or permeability, land management treatments should be designed and implemented where appropriate.

1.3 Management practices are adequate when significant progress is being made toward this Standard.

2.1 Management practices will maintain or promote sufficient vegetation cover, large wood debris, or rock to achieve proper functioning condition in riparian and wetland areas. Supporting the process of energy dissipation, sediment capture, groundwater recharge, and stream bank stability will thus promote stream channel morphology (e.g., width/depth ratio, channel roughness, and sinuosity) appropriate to climate, landform, gradient, and erosional history.

2.2 Where grazing management practices are not likely to restore riparian and wetland sites, land management treatments should be designed and implemented where appropriate to the site.

2.3 Management practices are adequate when significant progress is being made toward this Standard.

2.4 Grazing management practices will maintain, restore or enhance water quality and ensure the attainment of water quality that meets or exceeds state standards.

3.1 Management practices will promote the conservation, restoration, and maintenance of habitat for threatened and endangered species, and other special status species as may be appropriate.

3.2 Intensity, frequency, season of use and distribution of grazing use should provide for growth and reproduction of those plant species needed to reach long-term land use plan objectives. Measurements of ecological condition and trend/utilization will be in accordance with techniques identified in the Nevada Rangeland Monitoring Handbook.

3.3 Grazing management practices should be planned and implemented to allow for integrated use by domestic livestock, wildlife, and wild horses consistent with land use plan objectives.

3.4 Where grazing practices alone are not likely to achieve habitat objectives, land treatments may be designed and implemented as appropriate.

3.5 When native plant species adapted to the site are available in sufficient quantities, and it is economically and biologically feasible to establish or increase them to meet management objectives, they will be emphasized over non-native species.

3.6 Management practices are adequate when significant progress is being made toward this Standard.

Appendix 2

TERMS AND CONDITIONS

Allotment Number/ Name	Livestock Number/ Kind	Grazing Period Begin End	% PL*	Type Use	AUMs **	Permitted Use		
						Active use	Historic Suspended	Permitted Use
00507 Butte Seeding	55 Cattle	06/01 – 10/30	100	Active	275	275	75	350
00823 Badger Spring	933 Sheep	04/15 – 11/30	100	Active	1,411	1,412	0	1,412
00503 Thirty Mile Spring	325 Cattle 2,340 Sheep	04/15 – 02/28 04/15 – 02/28	100 100	Active Active	3,419 4,924	8,405	0	8,405
00821 Jakes Unit Trail	1,050 Sheep 1,050 Sheep	04/01 – 04/30 11/01 – 11/30	100 100	Active Active	207 207	466	0	466
00822 Preston Lund Trail	1,050 Sheep 1,050 Sheep	04/01 – 04/30 11/01 – 11/30	100 100	Active Active	207 207	427	0	427
00423 Duckcreek	63 Cattle	06/01 – 10/31	100	Active	317	321	0	321

* % PL is the percent of public land for billing purposes.
** AUMs may differ from Active Use due to a rounding difference with the number of livestock and the period of use.

In accordance with 43 CFR 4130.3-2, the following terms and conditions will be included in the grazing permit for John 2704534 & Company.

A new term and condition would be added to those of the previous permit addressing the Bristlecone Wilderness created through the White Pine Public Lands Act P.L. 109-432. The changes would affect motorized access in the wilderness area. No motorized access by the permittee will be permitted within the designated Bristlecone Wilderness without prior written approval of the district manager. Occasional motorized access may be permitted for emergency situations, or where practical alternatives for reasonable grazing management needs are not available and such use would not have a significant adverse impact on the natural environment.

Allowable Use Levels have been quantified and added into the terms and conditions to assist in the achievement of the standards and guidelines and land use plan objectives. A new term and condition relative to utilization levels and movement dates will also be added.

Allowable use levels would be 50% on Thirty Mile Spring, Badger Spring and Duckcreek Allotments and 65% on Butte Seeding Allotment.

Maximum utilization levels on the allotments will be established as follows:

- Perennial native grasses: 50% current year's growth
  This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) to contribute to litter cover, and 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

- Perennial non-native seedings: 65% of current year's growth on Butte Seeding
  This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) to contribute to litter cover, and 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

- Maximum allowable use levels will be established as follows:
  Perennial native grasses: 50% current year's growth
  Perennial shrubs and half-shrubs: 50% use on current annual production.
  Perennial non-native seedings: 65% current year's growth

Livestock will be moved to another authorized pasture/use area or moved within the authorized pasture/use area or removed from the allotment before utilization objectives are met or upon meeting utilization objectives. Special circumstances may occur when livestock are not able to be immediately moved to areas where livestock allowable use levels have not been attained. Communication, coordination and consultation between the authorized officer and the permittee is an important component of this term and condition. Any deviation in livestock movement will require authorization from the authorized officer.

The proposed management actions would be monitored by 2704534 and the BLM, if a problematic concern arises with grazing due to the grazing pattern established by the cattle or sheep over the years, adaptive management will be used. Additional or different management practices could be implemented cooperatively in order to achievement or make additional progress toward achievement of the standards for grazing. If additional forage becomes available through management practices or vegetation treatments then allocation of forage would be addressed as appropriate.

Duckcreek Allotment season of use is divided into two grazing periods which are rotated every other year. The two grazing periods are June 1 to July 31 and August 1 to October 31. During even numbered years livestock grazing is authorized from June 1 to July 31 and during odd numbered years livestock grazing is authorized from August 1 to October 31.

Sheep will be moved a minimum of five miles a day when trailing.

Terms and Conditions common to all allotments:

1. Livestock numbers identified in the term grazing permit are a function of seasons of use and active use for each allotment. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations would not prevent attainment of the multiple-use objectives for the above allotment(s).

2. Deviations from specified grazing use dates will be allowed when consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing.

3. Pursuant to 43 CFR 10.4(G) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CRF 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities for 30 days or until notified to proceed by the authorized officer.

4. An actual use report (form 4130-5) is required to be submitted within 15 days after completing your annual grazing use.

5. Grazing use in will be in accordance with the Northern Great Basin Area Standards and Guidelines for Grazing Administration, as developed by the resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR sub-part 4180 – Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.

6. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be reissued subject to revised terms and conditions.

7. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.

8. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.

9. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

Best Management Practices (BMPs) incorporated into the Terms and Conditions

BMPs applicable to the proposed action as described in the RMP (August 2008), Appendix A.

Livestock Grazing

Water troughs

- Place troughs connected with spring developments outside of riparian and wetland habitats to reduce livestock trampling damage to wet areas.

- Control trough overflow at springs with float valves or deliver the overflow back into the native channel.

Based on allotment situations and circumstances associated with livestock grazing and multiple use management, implement any or all of the following appropriate management practices on winterfat dominated ecological sites.

- Develop grazing systems to control or rest grazing use on winterfat sites after March 1 or when the critical growing season begins. Allow spring grazing use during the critical growing period if a grazing rotation system that provides rest from grazing during the critical growing period at least every other year for all areas is in place. Utilization during the critical growth period should not exceed 35 percent under any circumstances.
- Place salt and supplements at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.
- Locate sheep bedding grounds and camps at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.
- Locate water haul sites at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

Fish and Wildlife

• Pipe the overflow away from the last water trough on an open system to provide water at ground level.

Special Status Species

Develop grazing systems to minimize conflicts with special status species habitat.

Salt and mineral supplements:

- Base placement of salt and mineral supplements on site-specific assessment.
- Normally place salt and mineral supplements at least 0.5 mile away from riparian areas, sensitive sites, populations of special status species, cultural resource sites.
- Place salt at least 0.5 mile from any water source including troughs.
- Place salt and mineral supplements at least 1 mile from sage grouse leks.

Water hauling:

- Place water haul sites at least 0.5 mile away from riparian areas, cultural sites, and special status species locations.
- Limit water hauling to existing roads when possible.

Invasive, Non-Native Species and Noxious Weeds

A Weed Risk Assessment (See Appendix III) was completed on September 22, 2008. The stipulations listed in the Weed Risk Assessment will be followed when grazing occurs on the allotments.

- Prior to entering public lands, the BLM will provide information regarding noxious weed management and identification to the permit holders affiliated with the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- The range specialist for the allotments will include weed detection into project compliance inspection activities. If the spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with BLM personnel and will be in compliance with the appropriate BLM handbook sections and applicable laws and regulations.
- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for feed or bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District Office.
- Grazing will be conducted in compliance with the Ely District BLM noxious weed schedules. The scheduled procedures can significantly and effectively reduce noxious weed spread or introduction into the project area.
- Any newly established populations of noxious/invasive weeds discovered will be communicated to the Ely District Noxious and Invasive Weeds Coordinator for treatment.

RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS

Term Grazing Permit Renewal for John 2704534
Badger Spring, Butte Seeding, Duckcreek,
& Thirty Mile Spring Allotments
White Pine County, Nevada

On September 22nd, 2008 a Noxious & Invasive Weed Risk Assessment was completed for the term grazing permit renewal for John 2704534 on the Badger Spring, Butte Seeding, Duckcreek, and Thirty Mile Spring allotments in White Pine County, NV. The Bureau of Land Management would issue and fully process a new term grazing permit for John 2704534 & Company on the Thirty Mile Spring, Badger Spring, Butte Seeding, Duckcreek Allotments, Jakes Unit Trail and Preston Lund Trail and authorize livestock grazing on the Thirty Mile Spring, Badger Spring, Butte Seeding, Duckcreek Allotments, Jakes Unit Trail and Preston Lund Trail. The renewal of the term grazing permit would be for a period of ten years. The new term permit would include terms and conditions for grazing use that achieve, or make significant progress towards achieving the Standards and Guidelines for Grazing Administration and the other pertinent land use objectives for livestock use.

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. The following species are found within the boundaries of the Butte Seeding and Badger Spring allotments:

Lepidium draba	Hoary cress

The following species are found within the boundaries of the Thirty Mile Spring allotment:

Acroptilon repens	Russian knapweed
Carduus nutans	Musk thistle
Centaurea stoebe	Spotted knapweed
Cicuta maculata	Water hemlock
Cirsium vulgare	Bull thistle
Hyoscyamus niger	Black henbane
Lepidium draba	Hoary cress
Onopordum acanthium	Scotch thistle

The following species are found within the boundaries of the Duckcreek allotment:

Carduus nutans	Musk thistle
Centaurea stoebe	Spotted knapweed
Centaurea virgata	Squarrose knapweed
Cirsium arvense	Canada thistle
Cirsium vulgare	Bull thistle
Hyoscyamus niger	Black henbane
Lepidium draba	Hoary cress
Onopordum acanthium	Scotch thistle

The following species are found along roads and drainages leading to all allotments:

Acroptilon repens	Russian knapweed
Carduus nutans	Musk thistle
Centaurea stoebe	Spotted knapweed
Centaurea virgata	Squarrose knapweed
Cicuta maculata	Water hemlock
Cirsium arvense	Canada thistle
Cirsium vulgare	Bull thistle
Hyoscyamus niger	Black henbane
Lepidium draba	Hoary cress
Lepidium latifolium	Tall whitetop
Linaria vulgaris	Yellow toadflax
Onopordum acanthium	Scotch thistle
Tamarix spp.	Salt cedar

The Badger Spring, Butte Seeding, and Thirty Mile Spring allotments were last inventoried for noxious weeds in 2006. The Duckcreek allotment was last inventoried for noxious weeds in 2005. While not officially inventoried the following non-native invasive weeds probably occur in or around the allotment: cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*), horehound (*Marrubium vulgare*), and Russian thistle (*Salsola kali*).

Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area.

None (0)	Noxious/invasive weed species are not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.
Low (1-3)	Noxious/invasive weed species are present in the areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.
Moderate (4-7)	Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious/invasive weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.
High (8-10)	Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

For this project, the factor rates as Moderate (4) at the present time. The proposed action could increase the populations of the noxious and invasive weeds already within the allotments and could aid in the introduction of weeds from surrounding areas. Within the allotments, watering and salt block sites are of particular concern of new weed infestations due to the concentration of livestock around those sites and the amount of ground disturbance associated with that.

Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area.

Low to Nonexistent (1-3)	None. No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious/invasive weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

This project rates as High (8) at the present time. If new weed infestations establish within these allotments it could have an adverse impact those native plant communities, especially since the majority of the allotments are considered to be weed-free. Also, any increase of cheatgrass could alter the fire regime in the area.

The Risk Rating is obtained by multiplying Factor 1 by Factor 2.

None (0)	Proceed as planned.
Low (1-10)	Proceed as planned. Initiate control treatment on noxious/invasive weed populations that get established in the area.
Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious/invasive weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.
High (50-100)	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed site and controlling existing infestations of noxious/invasive weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.

For this project, the Risk Rating is Moderate (32). This indicates that the project can proceed as planned as long as the following measures are followed:

- Prior to entering public lands, the BLM will provide information regarding noxious weed management and identification to the permit holders affiliated with the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- The range specialist for the allotments will include weed detection into project compliance inspection activities. If the spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with BLM personnel and will be in compliance with the appropriate BLM handbook sections and applicable laws and regulations.
- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for feed or bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely Field Office.
- Grazing will be conducted in compliance with the Ely District BLM noxious weed schedules. The scheduled procedures can significantly and effectively reduce noxious weed spread or introduction into the project area.
- Any newly established populations of noxious/invasive weeds discovered will be communicated to the Ely District Noxious and Invasive Weeds Coordinator for treatment.

Reviewed by: _____ 9/22/2008

Bonnie Million
Ely District Noxious & Invasive Weeds
Coordinator

Date