

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

**Environmental Assessment
DOI-BLM-NV-L010-2010-0005-EA
March 2010**

**Authorization 2704459
Term Grazing Permit Renewal on the
Steptoe (00415) Allotment**

Location: White Pine County, Nevada

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1.0 Introduction: Need for Action

This document identifies issues, analyzes alternatives, and discloses the potential environmental impacts associated with renewing the proposed term grazing permit for the permittee with authorization 2704459 on the Steptoe Allotment. The Steptoe Allotment encompasses approximately 56,181 public land acres within the BLM Ely District. The grazing allotment occurs entirely within White Pine County, and is situated approximately 14 miles north of Ely, Nevada (Appendix I).

The legal location of the Steptoe Allotment is as follows:

T: 21N, R: 62E

T: 20N, R: 62E

T: 20N, R: 63E

T: 20N, R: 64E

T: 19N, R: 62E

T: 19N, R: 63E

T: 19N, R: 64E

T: 18N, R: 63E

T: 18N, R: 64E

1.0.1 Background

Current management practices have been implemented since the Final Multiple Use Decision was issued for the Steptoe Allotment on January 10, 1992.

1.1 Introduction of the Proposed Action.

The Bureau of Land Management (BLM) Egan Field Office proposes to fully process and issue a term grazing permit for the permittee with authorization 2704459 and authorize grazing on the Steptoe Allotment. Changes to the existing permit are recommended to achieve the Standards and Guidelines for Nevada's Northeastern Great Basin Area as established by the Northeastern Great Basin Area Resource Advisory Council (RAC), approved in 1997.

Monitoring data were reviewed and an assessment of the rangeland health was completed in 2010 during the term permit renewal process through a Standards Determination Document (Appendix II).

The following is a summary of the Steptoe Allotment SDD for achievement of the standards.

ALLOTMENT	STANDARD 1 Soils	STANDARD 2 Ecosystem Components	STANDARD 3 Habitat and Biota
Steptoe (00415)	Standard Achieved	Standard Achieved	Not achieving the Standard, not making significant progress towards achieving the Standard; Livestock are a causal factor; Additional causal factors include wild horse and wildlife overgrazing, altered natural disturbance regimes, past historic livestock overgrazing, and drought.

1.2 Need for the Proposed Action.

The need for the proposal is to provide for multiple uses of the public lands by renewing the term grazing permit for authorization 2704459 with new terms and conditions for grazing use that conform to guidelines and achieve standards for Nevada’s Northeastern Great Basin Area in accordance with all applicable laws, regulations, and policies and in accordance with Title 43 CFR 4130.2(a) which states, “Grazing permits or leases authorize use on the public lands and other BLM-administered lands that are designated in land use plans as available for livestock grazing.”

1.3 Objectives for the Proposed Action.

1.3.1. To renew the grazing term permit for authorization 2704459 and authorize grazing in accordance with applicable laws, regulations, and land use plans (LUP) on approximately 56,181 acres of public land.

1.3.2. To improve vegetative health and growth conditions on the allotment and continue to meet or make progress towards achieving the Standards and Guidelines for rangeland health as approved and published by Northeastern Great Basin Area Resource Advisory Council (RAC).

1.4 Relationship to Planning

The proposed action is in conformance with the Ely District Record of Decision and Approved Resource Management Plan signed August 20, 2008, which states, “Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health.” In addition, “To allow livestock grazing to occur in a manner and at levels consistent with multiple use, sustained yield, and the standards for rangeland health (p 85-86).”

Management Action LG-1 states, “Make approximately 11,246,900 acres and 545,267 animal unit months available for livestock grazing on a long-term basis.”

Management Action LG-5 states, “Maintain the current grazing preference, season-of-use, and kind of livestock until the allotments that have not been evaluated for meeting or making progress toward meeting the standards or are in conformance with the policies are evaluated. Depending on the results of the standards assessment, maintain or modify grazing preference, seasons-of-use, kind of livestock and grazing management practices to achieve the standards for rangeland health. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Ensure changes continue to meet the RMP goals and objectives, including the standards for rangeland health.”

1.4.1 Relationship to Other Plans

The proposed action is consistent with the following Federal, State, and local plans to the maximum extent possible.

- White Pine County Portion (Lincoln/White Pine Planning Area) Sage-grouse Conservation Plan (2004).
- State Protocol Agreement between the Bureau of Land Management, Nevada and the Nevada Historic Preservation Office (1999)
- Northeastern Great Basin Area Resource Advisory Council (RAC) Standards and Guidelines (2006)
- Wilderness Act – 1964
- Migratory Bird Treaty Act (1918 as amended) and Executive Order 13186 (1/11/01)
- White Pine County Land Use Plan (2007).
- White Pine County Elk Management Plan (2007 revision)

1.4.2 Tiering

This document is tiered to the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).

1.5 Relevant Issues and Internal Scoping/Public Scoping.

The term permit renewal proposal was initiated on December 7, 2009, with a presentation to the internal resource specialist team to identify any relevant issues.

A letter was mailed to the grazing permittee regarding the permit renewal action on December 18, 2009, requesting comments by January 31, 2010. The permittee initiated a discussion and their comments were considered and incorporated where appropriate.

A letter notifying interested publics of the term permit renewal was sent December 22, 2009. No comments were received.

A Grazing Permit Renewal Summary for these permits was published on the Ely District website on January 6, 2010. No comments were received.

On January 6, 2010 a Notice of Proposed Action on lands in wilderness was mailed to individuals and organizations that have expressed an interest in wilderness related actions requesting comments by February 8, 2010. No comments were received from the wilderness mailing list.

On January 8, 2010, a letter was sent to local tribes requesting comments by February 8, 2010. No comments were received regarding these permit renewals.

2.0 Alternatives Including the Proposed Action

2.1 Proposed Action

The BLM proposes to issue and fully process a new term grazing permit for authorization 2704459 and authorize grazing use on the Steptoe Allotment (Appendix I).

Changes to the permit are recommended to achieve the Standards and Guidelines for Nevada's Northeastern Great Basin Area on the Steptoe Allotment (Appendix II).

2.1.1 Proposed term permit

The renewal of the term grazing permit will be for a period of up to 10 years. If base property is transferred during this ten year period with no changes to the terms and conditions the new term permit would be issued for the remaining term of this term permit.

The proposed term permit for authorization 2704459 and terms and conditions are as follows:

This will remain a cattle permit with a permitted use **grazing preference** of 4,525 AUMs from March 1 to February 28. Of these 4,525 AUMs, 2,836 AUMs will remain active and 1,689 AUMs will remain suspended nonuse. The season of use will continue to be from 3/1 to 2/28 (Table 1). Proposed changes to the "Mandatory Terms and Conditions" on the permit of authorization 2704459 include the seasons of use for the Egan Bench, Dry Canyon, South Steptoe seeding, North Steptoe seeding, and North Slough pastures; however, the AUM's remain the same. In addition, the percent public land (%P.L.) will be updated from 43% to 94% in the AUM's calculation because private land was fenced from public land. This has reduced the number of cattle from 361 to about 165 for the same duration (See Appendix II for a complete discussion). Furthermore, changes to "Other Terms and Conditions" and "Additional Stipulations Common to All Grazing Allotments" have been made (Appendix II).

Changing the seasons of use for the Egan Bench, Dry Canyon, South Steptoe seeding, North Steptoe seeding, and North Slough pastures, while keeping the AUM amount the same, will add flexibility to the management system and aid in applying adaptive management techniques. Minimal use will likely continue to occur during the spring in the Egan Bench pasture, as a result of feeding hay on adjacent unfenced private land. However, opening up the season of use will allow for use in the uplands (i.e. an old burn approximately 384 acres) later in the summer and fall, alleviating grazing pressures on summer range (Appendix II, Figure 4). The herd will likely continue to use the South Steptoe Seeding next, since crested wheatgrass green's up earlier than native range. However, due to the high degree of temporal variability in range condition from one year to the next in the great basin, by opening up the season of use on these five pastures allows the operator to move livestock according to range condition. For example, if the spring turns to summer earlier than normal (i.e. from the vegetation's standpoint), then livestock can be moved to the summer pastures or up on the old burns in the Egan and Dry Canyon pastures, alleviating grazing pressure on the South Steptoe Seeding. Use within the North Steptoe Seeding

will continue to depend on the year, with some years of rest occurring. However, by opening up the season of use dates, grazing may occur during the late summer, fall, and winter, which is not considered to be a detrimental time to graze crested wheatgrass, unlike the restricted spring use dates under the current permit. It is likely that the herd may be split between the South Steptoe Seeding and Dry Canyon pastures or use will occur in the Dry Canyon pasture following use in the South Steptoe Seeding. Opening up the season of use dates within the Dry Canyon pasture will allow livestock to graze the uplands (i.e. an old burn approximately 400 acres) later in the summer and fall, alleviating grazing pressure on summer and fall pastures. Livestock will likely continue to graze the slough area within the North Slough pasture and the Shep Field pastures. Opening up the season of use on the North Slough pasture will allow livestock to make use on the upland, winterfat range, alleviating grazing pressure on the Duck Creek Flat pasture. Livestock will continue to winter on the Duck Creek Flat pasture. In addition, requiring the permittee to meet with the range management specialist on an annual basis, will ensure that livestock are not in the same place, at the same time, every year, both within and across pastures. Rotating cattle in this manner promotes growth, re-growth, and reproduction within palatable plants.

Table 1. Mandatory Terms and Conditions

Mandatory Terms and Conditions (proposed for new permit).

<u>Pasture</u>	<u>Livestock #</u>	<u>Kind</u>	<u>Grazing Begin</u>	<u>Grazing End</u>	<u>% Public Land</u>	<u>AUM's</u>
Egan Bench	15	Cattle	3/1	2/28	100	189
Dry Canyon	37	Cattle	3/1	2/28	100	454
South Steptoe seeding	25	Cattle	3/1	2/28	100	300
North Steptoe seeding	10	Cattle	3/1	2/28	100	247
North Slough	48	Cattle	3/1	2/28	94	546
Shep Field	470	Cattle	6/15	10/15	5	94
Duck Creek Flat	225	Cattle	10/16	2/28	100	1006

Other Terms and Conditions

1. Permittee agrees to place 127 AUM's of their 247 AUM's in the North Steptoe Seeding into voluntary non-use for conservation purposes for a period of 5 years starting 3/1/2010.
2. Livestock numbers are flexible as long as permitted use (i.e. AUM's) is not exceeded during the authorized season of use.
3. Permittee, through livestock control, will leave enough photosynthetic material to promote production and re-growth. Maximum utilization levels are 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 shrubs and half-shrubs: 50% use on current annual production.

This use level is necessary to allow desirable perennial key browse species to develop branchlets and woody stature able to withstand the pressure of grazing use. Use would be read in April or prior to the spring re-growth. Use during spring contributes to following season's use level.

Crested wheatgrass: 65% 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.

4. Permittee will move livestock to another authorized pasture or from the allotment no later than 5 days following attainment of maximum utilization levels. Any deviation in livestock movement will require authorization from the authorized officer.
5. Salt and/or mineral supplements for livestock must be located at least ½ mile from water sources, riparian areas, winterfat bottoms, sensitive sites, and cultural resource sites. Such supplements may be used to encourage livestock distribution.
6. Permittee must employ short duration grazing where applicable (as opposed to season long or continuous grazing).

This encourages a single defoliation event on a plant, which is much more beneficial to the plant than multiple defoliations. Multiple defoliation events on a plant retard root-growth, causing a decrease in total absorptive surface. Decreasing the total absorptive surface decreases total plant growth and reduces carbohydrate reserves necessary to maintain plant vigor.
7. Permittee and Range Management Specialist must meet on an annual basis to develop a grazing plan for that year prior to the start of the grazing season.

Additional Stipulations Common to All Grazing Allotments:

1. Livestock numbers identified in the Term Grazing Permit are a function of seasons of use and permitted use. 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 allotment.
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 use.

3. The authorized officer is requiring that an actual use report (form 4130-5) be submitted within 15 days after completing your annual grazing use.
4. Grazing use will be in accordance with the Standards and Guidelines for Grazing Administration. The Standards and Guidelines have been developed by the respective Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR Subpart 4180 - Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.
5. 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.
6. 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 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
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.

2.1.3 Invasive, Non-Native Species and Noxious Weeds

A Weed Risk Assessment (See Appendix IV of Appendix II) was completed on February 17, 2010. The stipulations listed in the Weed Risk Assessment will be followed when grazing occurs on the allotment.

2.1.4 Monitoring

The Ely District Approved Resource Management Plan (August 2008) identifies monitoring to include, "Monitoring to assess rangeland health standards will include records of actual livestock use, measurements of forage utilization, ecological site inventory data, cover data, soil mapping, and allotment evaluations or rangeland health assessments." Conditions and trends of resources affected by livestock grazing will be monitored to support periodic analysis/evaluation, site-specific adjustments of livestock management actions, and term permit renewals.

2.2 No Action Alternative

The No Action Alternative represents the status quo – the permit would be renewed without modifications to the permit terms and conditions.

2.2.1 Current permit

This is a cattle permit with a total grazing preference of 4,525 AUMs from March 1 to February 28. Of these 4,525 AUMs, 2,836 AUMs are active and 1,689 AUMs are suspended nonuse. The season of use on this allotment is from 3/1 to 2/28 (Table 2).

The current rotation of cattle between pastures is as follows; cattle are placed on the Egan Bench pasture and fed hay on adjacent unfenced private land with minimal use on rangelands. The herd typically is moved to the South Steptoe Seeding, since crested wheatgrass green's up earlier than native range. Depending on the year, few animals might be taken to the North Steptoe Seeding, or it may be rested (e.g. 2008). The herd may also be split into two groups, one would remain in the South Steptoe Seeding and the other moved to the Dry Canyon pasture. Following the attainment of AUM's, the end of the use season, or local range conditions, livestock are moved from the South Steptoe Seeding and Dry Canyon Pastures to spend the summer in the slough area of the North Slough pasture and the Shep Field pasture. Following use in the summer pastures, livestock are moved to the Duck Creek Flat pasture to finish the grazing season.

Table 2. Mandatory Terms and Conditions on the current permit from 6/23/2000 to 6/23/2010.

<u>Pasture</u>	<u>Livestock #</u>	<u>Kind</u>	<u>Grazing Begin</u>	<u>Grazing End</u>	<u>% Public Land</u>	<u>AUM's</u>
Egan Bench	94	Cattle	3/1	4/30	100	189
Dry Canyon	300	Cattle	4/16	5/31	100	454
South Steptoe seeding	120	Cattle	4/16	6/30	100	300
North Steptoe seeding	99	Cattle	4/16	6/30	100	247
North Slough	361	Cattle	6/16	9/30	43	546
Shep Field	470	Cattle	6/15	10/15	5	94
Duck Creek Flat	225	Cattle	10/16	2/28	100	1006

Other Terms and Conditions

1. Signed actual use statements for the period 3/1 to 2/28 are due yearly by 3/31. Issuance of grazing licenses is dependent upon receipt of actual use.
2. The payment of your grazing fees is due on or before the due date specified in the grazing bill. This date is generally the opening date of your allotment. If payment is not received within 15 days of the due date, you will be charged a late fee assessment of \$25 or 10 percent of the grazing bill, whichever is greater, not to exceed \$250. Failure to make payment within 30 days of the due date may result in trespass action.
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 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

4. Grazing use will be in accordance with the northeastern or Mojave southern Great Basin Area Standards and Guidelines for Grazing Administration as Developed by the Northeastern and Mojave-southern Great Basin Resource Advisory Councils and approved by the secretary of the interior on February 13, 1997. Grazing use will also be in accordance with 43 DFR subpar 4180 – Fundamentals of rangeland health and standards and guidelines for grazing administration.
5. This permit: 1. Conveys no right, title or interest held by the United States in any lands or resources and 2. Is subject to (A) modification, suspension or cancellation as required by land plans and applicable law; (B) annual review and to modification of terms and conditions as appropriate; and (C) the Taylor Grazing Act, as amended, the Federal Land Policy and Management Act, as amended, The Public Rangelands Improvement Act, and the rules and regulations now or hereafter promulgated there under by the secretary of the interior.

2.3 Alternatives Considered but Eliminated from Further Analysis

The Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November, 2007) analyzes five alternatives of livestock grazing (p.4.16-1 to 4.16-15.), including a no-grazing alternative (D). No further analysis is necessary in this document.

- The Proposed RMP
- Alternative A, The Continuation of Current Existing (No Action alternative)
- Alternative B, the maintenance and restoration of healthy ecological systems
- Alternative C, commodity production
- Alternative D, conservation alternative (no-grazing alternative)

3.0 Description of the Affected Environment and Associated Environmental Consequences

3.1 Allotment Information

The Steptoe Allotment encompasses approximately 56,181 public land acres within the Ely BLM District. The grazing allotment occurs entirely within White Pine County, and is situated approximately 14 miles north of Ely, Nevada (Appendix I, Figure 1). A portion (approximately 11%) of the Steptoe Allotment occurs within the Triple B Wild Horse Herd Management Area (Appendix I). A small portion (< 1%) of the Bristlecone Wilderness occurs within the southwestern portion of the Steptoe Allotment (Appendix II).

Native vegetation varies throughout the Steptoe Allotment and includes curl-leaf mountain mahogany, (*Cercocarpus ledifolius*), Utah juniper (*Juniperus osteosperma*), singleleaf pinyon pine (*Pinus monophylla*), four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), winterfat (*Krasheninnikovia lanata*), basin big sagebrush (*Artemisia tridentata* var. *tridentata*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), mountain big sagebrush (*Artemisia tridentata* var. *vaseyana*), black sagebrush (*Artemisia nova*), black greasewood (*Sarcobatus vermiculatus*), spiny hopsage (*Grayia spinosa*), Great Basin wildrye (*Leymus cinereus*), Indian ricegrass (*Achnatherum hymenoides*), squirreltail (*Elymus elymoides*), needleandthread (*Hesperostipa comata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), alkali sacaton (*Sporobolus airoides*), alkali cordgrass (*Spartina gracilis*), sedge (*Carex* sp.), rush (*Juncus* sp.), and saltgrass (*Distichlis spicata*).

The Steptoe Allotment contains habitat for pronghorn antelope (*Antilocapra Americana*), elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), greater sage-grouse (*Centrocercus urophasianus*), pygmy rabbit (*Brachylagus idahoensis*), Steptoe Valley crescent-spot butterfly (*Phyciodes cocyta arenacolor*), and goshawk (*Accipiter gentilis*).

3.2 Resources/Concerns Considered for Analysis - Proposed Action

The following items have been evaluated for the potential for significant impacts to occur, either directly, indirectly, or cumulatively, due to implementation of the proposed action.

Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general and to the BLM Ely district in particular.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	No	Air quality in the affected area is generally good except for occasional dust storms. The proposed action would contribute to ambient dust in the air due to trailing, but the impact would be temporary and would not approach a level that would exceed any air quality standards. Further analysis is not required.
Cultural Resources	No	Impacts from livestock grazing on Cultural Resources are analyzed on page 4.9-5 of the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Presently, the Steptoe Allotment has not been completely inventoried and unknown cultural resources may still be present. Presently there are eight known potentially eligible sites to the National Register of Historic Places. All eligible historic resources will be evaluated and monitored accordingly for impacts. Mitigation and treatment will be applied as concerns are identified.
Forest Health	No	No Forest Health concerns occur within or adjacent to the project area.
Rangeland Standards and Health	No	Impacts from livestock grazing on Rangeland Standards and Health are analyzed on pages 4.16-3 through 4.16-4 of the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Beneficial impacts to rangeland standards and health are consistent with the need and objectives

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		for the proposed action. An assessment and evaluation of livestock grazing managements achievement of the standards and conformance to the guidelines was completed in conjunction with this project (Appendix II) No further analysis is needed.
Migratory Birds	No	The migratory bird species that occur in or near the project area are listed in Appendix III. Continued progress towards the RAC standards will aid in the future desired condition of habitat for migratory bird species of concern. The potential for the proposed livestock grazing to affect migratory birds is discountable because of low density of livestock within the allotment.
Native American Religious Concerns and other concerns	No	Tribal Coordination Letters were sent out January 8, 2008 for the authorization 2704459 term permit renewal notifying the tribes of a 30 day comment period. No concerns were identified. Direct impacts and cumulative impacts would not occur because there were no identified concerns through coordination.
FWS Listed or proposed for listing Threatened or Endangered Species or critical habitat.*	No	Threatened, Endangered, or Proposed species are not known to be present in the project area.
Wastes, Hazardous or Solid	No	No hazardous or solid wastes exist on the permit renewal area, nor would any be introduced by the proposed action.
Water Quality, Drinking/Ground	No	Impacts from livestock grazing on Water Resources were analyzed on page 4.3-5 in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). The proposed action does not pose any impact to ground water in the project area. No surface water in the project area is used as human drinking water sources and no impaired water of the State are present in the project area.
Wilderness	No	A portion of the Steptoe Allotment occurs in the Bristlecone Wilderness. No range improvements or developments exist within the portion of the Steptoe Allotment which overlaps with the wilderness. Trammeling activities will occur in the form of removal of vegetation through livestock grazing, but would not impair wilderness characteristics.
Environmental Justice	No	No environmental justice issues are present at or near the project area. No minority or low income populations would be unduly affected by the proposed action
Floodplains	No	No floodplains have been identified by HUD or FEMA within the allotment. Floodplains, as defined in Executive Order 11988, may exist in the area, but would not be affected by the proposed action.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Watershed Management	No	Impacts from livestock grazing on Watershed Management are analyzed on page 4.19-5 of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). Further changes to livestock management may be recommended during the watershed analysis process; however no concerns have been identified at this time.
Wetlands/Riparian Zones	No	Impacts from livestock grazing on Water Resources were analyzed in the Standard Determination Document (Appendix II).
Noxious and Invasive Weed Management	No	Livestock grazing has the potential to spread noxious and non-native, invasive weeds. The design features of the proposed action will help prevent the spread of noxious and non-native, invasive weeds. The no action alternative would result in the current rate of spread for noxious and non-native, invasive weeds to continue. A Weed Risk Assessment has been completed for this EA (see Appendix IV of Appendix II). No additional analysis is needed.
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered (see appendix III)	No	No Special Status Plant species are known to occur within the project area.
Wild Horses	No	Impacts from livestock grazing on Wild Horses are analyzed on page 4.8-6 of the Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). The northwest corner (~11%) of the Steptoe Allotment is within the Triple B Wild Horse Herd Management Area. Site specific examination of the allotment did not reveal any concerns above those addressed in the EIS.
Soil Resources	No	Impacts from livestock grazing on Soil Resources were disclosed on page 4.4-4 in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). Soils were considered in the SDD (Appendix II). This analysis did not reveal any soil resource concerns.
Prime and Unique Farmlands	No	The Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) states on page 4.1-3 that Prime and Unique Farmlands are not affected by the management actions being analyzed. Livestock grazing will not impact prime farmlands because it will not change soil characteristics that affect farmland status.
Special Designations other than Designated Wilderness	No	No Special Designations occur within the project area.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
VRM	No	The proposed action is consistent with the VRM classification 1, 2, 3, and 4 for the area therefore no direct or cumulative impacts to visual resources would occur.
Special Status Animal Species, other than those listed or proposed by the FWS as Threatened or Endangered (see appendix III)	Yes	<p>Impacts from livestock grazing on Special Status Species are analyzed on page 4.7-28 through 4.7-30 of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).</p> <p>The project area contains nesting, summer, and winter habitat for greater sage-grouse (<i>Centrocercus urophasianus</i>). There are three sage-grouse leks within the project area and three within three miles of the project area. Livestock turnout dates, grazing rotation, and establishment of allowable use levels are beneficial to providing perennial grass cover and forage for this species.</p> <p>The pygmy rabbit (<i>Brachylagus idahoensis</i>) has some known habitat to the north of the project area and potential habitat within the allotment. No occurrences of pygmy rabbits are currently known within the allotment boundaries according to Nevada Natural Heritage Program data. The species prefers areas of tall sagebrush with deep friable soils for digging burrows. The grazing management practices outlined in the proposed action work to maintain or move the vegetative conditions toward the cover and habitat standards outlined by the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (2006). These changes will maintain potential pygmy rabbit habitat within the allotment.</p>
Fish and Wildlife	No	<p>Impacts from livestock grazing on Fish and Wildlife are analyzed on pages 4.6-10 through 4.6-11 in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).</p> <p>Site specific examination of the allotment did not reveal any concerns above those addressed in the EIS.</p>
Grazing Uses	No	The proposed action will continue to meet the RMP goals and objectives, including progressing toward meeting the standards for rangeland health. The proposed action is consistent with the need for the action, no further analysis is necessary.
Land Uses	No	There would be no modifications to land use authorizations through the proposed action, therefore no impacts would occur. No direct or cumulative impacts would occur to access and land use.
Recreation Uses	No	The nature of grazing does not conflict with recreation resources and values.
Paleontological Resources	No	No currently identified paleontological resources are present in the project area.
Mineral Resources	No	There would be no modifications to mineral resources through the proposed action, therefore no direct, indirect, or cumulative impacts would occur to minerals.
Vegetative Resources	No	Impacts from livestock grazing on Vegetation (including Riparian) Resources were analyzed on page 4.5-9 in the Ely

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Beneficial impacts to vegetative resources are consistent with the need and objectives for the proposed action. No further analysis is needed.
Wild and Scenic Rivers	No	No Wild and Scenic Rivers occur within or adjacent to the project area.

*Consultation required unless a “not present” or “no effect” finding is made

The resources/concerns that are not present in the proposed action allotment or are affected negligibly by the proposed action and do not require further analysis include air quality, forest health, migratory birds, Native American religious concerns, FWS listed or proposed for listing threatened or endangered species or critical habitat, hazardous or solid wastes, environmental justice, floodplains, special status plant species, special designations other than designated wilderness, VRM, grazing uses, land uses, recreation uses, paleontological resources, and mineral resources.

The resources that have impacts from livestock grazing disclosed in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) include Water Resources (page 4.3-5), Soil Resources (page 4.4-4), Vegetation (including Riparian) Resources (page 4.5-9), Fish and Wildlife (pages 4.6-10 through 4.6-11), Wild Horses (page 4.8-6), Cultural Resources (page 4.9-5), Rangeland Standards and Health (pages 4.16-3 through 4.16-4), and Watershed Management (page 4.19-5). These resources do not require a further detailed analysis.

3.2.1 Affected Environment

Special Status Animal Species, other than those listed or proposed by the USFWS as Threatened or Endangered

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). There are three known leks within the Steptoe Allotment and three others within three miles of the allotment according to NDOW data (2009). Of these, two are active, two are unknown, one is inactive, and one is historic. Sage-grouse often nest in suitable habitat within three miles of a lek site (Connelly et al. 2000). Based on course data that the Nevada Department of Wildlife and Bureau of Land Management (2001) constructed for the 2008 Resource Management Plan, the Steptoe Allotment contains nesting, summer, and winter sage-grouse habitat. Portions of the Butte Valley/White Pine and the Antelope/White Pine Population Management Units (PMUs) are included within the Steptoe Allotment.

3.2.2 Environmental Effects

Proposed Action

Key areas within the Steptoe Allotment were selected to represent grazing use. As a result, key areas were located in saline meadow communities; crested wheatgrass seedings and winterfat

dominant communities (Appendix II). Therefore, data collected at key areas is not appropriate for comparisons to sage-grouse habitat. However, based on professional observation much of the sagebrush communities are dominated by shrubs, while lacking an herbaceous understory (i.e. grasses and forbs). Sagebrush and perennial bunchgrasses provide sage-grouse with cover, which is particularly important during the nesting season (Connelly et al. 2000). Additionally, forbs are an important food source especially during the pre-nesting and brood rearing seasons (Connelly et al. 2000). Design features incorporated into the proposed action would maintain and improve habitat by promoting herbaceous cover increases, while enhancing community health. The following paragraphs are specific design features of the proposed action that would maintain and improve sage-grouse habitat.

Changing the seasons of use for the Egan Bench, Dry Canyon, South Steptoe seeding, North Steptoe seeding, and North Slough pastures, while keeping the AUM amount the same promotes adaptive management and adds flexibility to the management system. Such flexibility allows for a pasture rotation, promoting herbaceous plant re-growth and reproduction within all pastures. Restricting grazing to occur in the same place, at the same time, year after year inhibits palatable plants from completing their life-cycle within certain pastures. For example, in the Dry Canyon pasture Indian ricegrass is the primary forage utilized between 4/16 and 5/31 (the dates on the current permit). Grazing at this time removes vegetative and reproductive material prior to seed ripe. This is also the timeframe when resources (i.e. water and nutrients) commonly become limited, restricting plant re-growth, in turn restricting Indian ricegrass from producing seed which limits recruitment. Continuous years of grazing in this manner limit Indian ricegrass recruitment/regeneration, which is necessary to maintain and promote grass cover. Therefore, using a flexible approach allows a rotation to be used, encouraging herbaceous re-growth and reproduction. Herbaceous re-growth and reproduction will promote herbaceous cover increases, leading to improved sage-grouse habitat.

Changing the percent public land (%P.L.) in the North Slough pasture from 43% to 94% in the AUM's calculation will bring the livestock numbers down to the pasture carrying capacity. Stocking levels will be reduced from 361 cattle to about 165 cattle for the same duration. By bringing the livestock numbers down to the pasture carrying capacity, less forage will be consumed, leaving more photosynthetic material. In addition, requiring livestock movement once maximum utilization levels are met throughout the allotment will leave more photosynthetic material, promoting more rapid recovery of root growth, vegetative re-growth, and reproduction within herbaceous plants (Briske 1991). Encouraging rapid root growth recovery, vegetative re-growth, and reproduction will result in increased herbaceous cover, in turn leading to improved sage-grouse habitat.

The permittee with authorization 2704459 agrees to place 127 AUM's of their 247 AUM's in the North Steptoe Seeding into voluntary non-use for conservation purposes for a 5 year period. This will discourage the compounded effects of over utilization from wildlife, wild horses, and livestock, in turn, leaving more photosynthetic material. More photosynthetic material results in more rapid recovery of root growth, vegetative re-growth, and reproduction within herbaceous plants (Briske 1991). Encouraging rapid root growth recovery, vegetative re-growth, and reproduction will result in increased herbaceous cover, in turn leading to improved sage-grouse habitat.

The design feature to employ short duration grazing (as opposed to season long or continuous grazing) encourages a single defoliation event on a plant, which is much more beneficial to the plant than multiple defoliations. Multiple defoliation events on a plant retard root-growth, causing a decrease in total absorptive surface (Briske 1991). Decreasing the total absorptive surface decreases total plant growth and reduces carbohydrate reserves necessary to maintain plant vigor (Briske 1991). Therefore, limiting multiple defoliation events through short duration grazing will promote increased herbaceous cover.

In addition, the remaining “Other Terms and Conditions” and “Additional Stipulations Common to All Grazing Allotments” are proposed to encourage livestock distribution and prevent transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas. Better livestock distribution and preventing weed transport will indirectly improve sage-grouse habitat by encouraging herbaceous cover of desirable species.

3.2.3 Environmental Effects

No Action Alternative

Impacts to resources/concerns from renewing the permit under the no action alternative are described as follows:

Impacts to air quality, cultural resources, forest resources, migratory birds, Native American Religious concerns, Threatened and Endangered species, hazardous/solid waste, water quality, wilderness, environmental justice, floodplains, watersheds, special status plant species, wild horses, soil resources, special designations, Visual Resource Management (VRM), land uses, recreation uses, paleontological resources, water resources, grazing uses, and mineral resources have the same effects as those described under the proposed action.

The seasons of use dates for the Egan Bench, Dry Canyon, South Steptoe seeding, North Steptoe seeding, and North Slough pastures will remain the same, restricting grazing to occur in the same place, at the same time, year after year. This inhibits palatable plants from completing their life-cycle within certain pastures. Such a season of use restriction will continue to discourage herbaceous re-growth, in turn limiting recruitment/reproduction within certain pastures. Limited recruitment/reproduction leads to decreased herbaceous cover and poor sage-grouse habitat.

Livestock grazing within the North Slough pasture will continue to result in overgrazing as a result of exceeding the pasture’s carrying capacity. This will lead to reduced photosynthetic material, discourages rapid root growth recovery, vegetative re-growth, and reproduction within herbaceous plants (Briske 1991). Discouraging rapid root growth recovery, vegetative re-growth, and reproduction will result in decreased herbaceous cover, in turn leading to degraded sage-grouse habitat. In addition, discouraging rapid root growth recovery, vegetative re-growth, and reproduction within desirable species will promote resource acquisition by weedy species, leading to degraded sage-grouse habitat.

By not requiring livestock movement once maximum utilization levels are met might discourage desirable key herbaceous species from developing roots that would otherwise improve carbohydrate storage for vigor, reproduction, and improve/increase desirable herbaceous cover. This may occur if too much photosynthetic material is taken, which retards root-growth, causing a decrease in total absorptive surface (Briske 1991). Decreasing the total absorptive surface

decreases total plant growth and reduces carbohydrate reserves necessary to maintain plant vigor (Briske 1991). As a result, herbaceous cover may remain low; therefore, the quality of sage-grouse habitat may be limited.

Two hundred forty seven AUM's would remain in the North Steptoe Seeding. The effects of heavy utilization by wildlife, wild horses, and livestock will continue to result in overgrazing, which reduces crested wheatgrass cover and increases sagebrush cover. Decreased crested wheatgrass cover will further lead to degraded sage-grouse habitat.

Impacts to the indicators of rangeland standards and health would continue to degrade and progress at a reduced rate when compared to the proposed action. Impacts to vegetative resources would not improve as described under the proposed action. Impacts to special status animal species, including sage-grouse and fish/wildlife resources, would not improve. Some of the pastures in the Steptoe Allotment are not meeting the desired vegetative composition for Standard 3 (Appendix II). Therefore, the allotment would continue to fail to meet the needs of the key "umbrella" species for sagebrush habitats identified in the Ely District Resource Management Plan (2008).

4.0 Cumulative Effects

According to the 1994 BLM publication (attached to WO-IB-94-310) "Guidelines for Assessing and Documenting Cumulative Impacts," "The cumulative analysis can be focused on those issues and resource values identified by management, the public and others during scoping that are of major importance." The Cumulative Effects Study Area (CESA) on special status species including sage-grouse is defined as the Steptoe Allotment.

A comprehensive cumulative impacts analysis can be found on pages 4.28-1 through 4.36-1 of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).

4.1 Past Activities

Livestock grazing has a long history in the region dating back to the late 1800's. Throughout its history, livestock grazing has been characterized by localized areas of intense use. Range improvements have occurred on the allotment to improve grazing management and include fencing and stockwater developments. Hunting, trapping, wildlife viewing, and other activities have also occurred on this allotment year round. OHV use may have occurred on the roads and two-tracks on the allotment.

4.2 Present Activities

Currently the allotment is authorized for grazing use by livestock. Maintenance of range improvements is ongoing. Hunting, trapping, wildlife viewing, and other activities currently occur on the allotment year round. OHV use may also occur on the roads and two-tracks on the allotment.

4.3 Reasonably Foreseeable Future Actions (RFFA)

Maintenance of range improvements will be ongoing. New range improvement projects are considered on an annual basis and analyzed on a site specific basis. New range improvement projects benefit vegetation resources and wildlife habitat through better livestock distribution and control. Wildfires could be likely within the CESA. Hunting, trapping, wildlife viewing, and other activities will probably occur on all allotment year round. OHV use could occur on the roads and two-tracks on the allotment.

4.4 Cumulative Effects Summary

Transportation activities, including existing road maintenance, grazing uses, recreational activities, and wildland fires within the CESA can contribute to affect habitat for special status species (i.e. sage-grouse).

5.0 Proposed Mitigation and Monitoring

5.1 Proposed Mitigation

Outlined design features incorporated into the proposed action are sufficient. No additional mitigation is proposed based on the analysis of environmental consequences.

5.2 Proposed Monitoring

Appropriate monitoring has been included as part of the Proposed Action. No additional monitoring is proposed as a result of the impact analysis.

6.0 List of Preparers - BLM Field Office Resource Specialists

Mark Freese	Rangeland Resources/Project Lead
Gina Jones	Planning and Environmental Coordinator
Mindy Seal	Vegetation; Noxious and Invasive, Non-native Species
Marian Lichtler	Wildlife, Special Status Species, Migratory Birds
Lisa Gilbert	Cultural Resources
Mark D'Aversa	Soil, Water, Wetlands and Riparian, Floodplains
Ruth Thompson	Wild Horse and Burro Resources
Elvis Wall	Native American Cultural Concerns
Dave Jacobson	Wilderness
Chris Mayer	Supervisory Rangeland Management Specialist

6.1 Tribes, Individuals, Organizations, or Agencies Consulted

The following persons, groups, and agencies were contacted during the preparation of this document.

•Permittees

- Authorization 2704459

- Nevada Department of Wildlife**

- Steve Foree

- Tribal Consultation**

- Tribal Coordination Letters were sent January 8, 2010. No concerns were identified through coordination.

Public Notice of Availability

The Ely District Office mails an annual Consultation, Cooperation, and Coordination (CCC) Letter to individuals and organizations that have expressed an interest in rangeland management related actions. Those receiving the annual CCC Letter have the opportunity to request from the Field Office more information regarding specific actions. The following individuals and organizations, who were sent the annual CCC letter on December 22, 2009, have requested additional information regarding rangeland related actions or programs within the Steptoe Allotment:

Nevada Department of Wildlife, Steve Foree
Eureka County Department of Natural Resources
Western Watersheds Project, Katie Fite
Steven Carter
Sustainable Grazing Coalition, Richard Orr
Eastern Nevada Landscape Coalition, Betsy Macfarlan
Joe McGloin
F.B. Anpu
Gordon V. Foppiano
Wade West
Carl Slatowski
Karen Rajala
Craig C. Downer
Thelora Kemp
Sterling Wines
Herbert Stathes
Turner and Irlbeck Ranches
Aaron Kesler
Gracian Uhalde
Nevada State Clearinghouse (electronic copy only)

All of these entities will be mailed a copy of the preliminary EA and draft Steptoe Allotment SDD for review and comment.

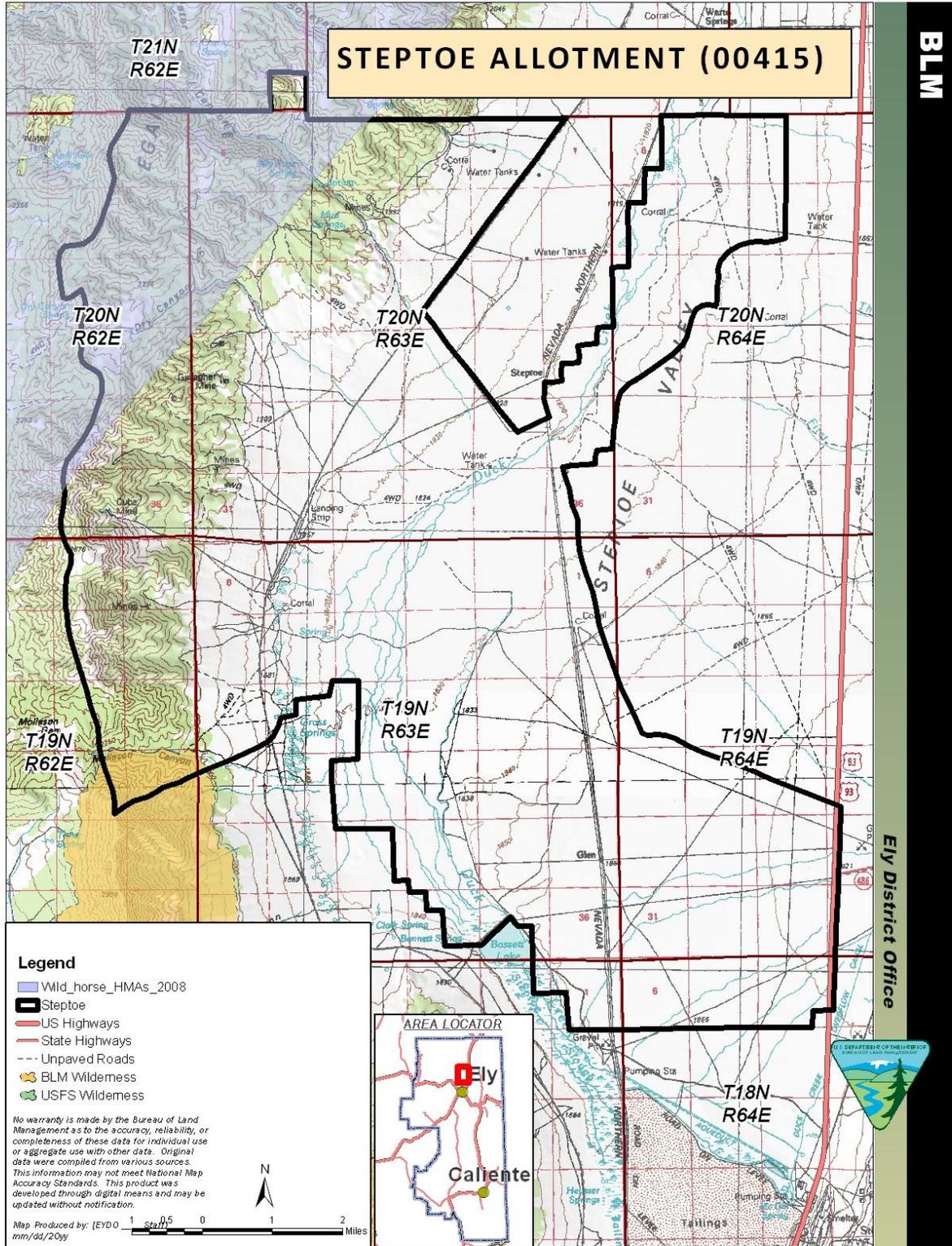
The preliminary EA and SDD for the Steptoe Allotment will be sent to interested persons and organizations on the Ely District Rangeland Management Interested Public List.

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- USDO I, Nevada Department of Wildlife. 2009. *Sage-grouse Leks (GIS data)*.
- USDO I, Nevada Department of Wildlife and Bureau of Land Management. 2001. *Sage-grouse Nesting, Summer, and Winter Habitat: BLM Ely District RMP 2008 (GIS data)*.

APPENDIX I

Figure 1. Steptoe Allotment Map



APPENDIX II
**U.S. Department of the Interior
Bureau of Land Management**

STANDARDS DETERMINATION DOCUMENT
December, 2009

**Authorization 2704459
Term Grazing Permit Renewal on the
Steptoe (00415) Allotment**

U.S. Department of the Interior
Bureau of Land Management
Ely District Office
Egan Field Office
Phone: (775) 289-1800
Fax: (775) 289-1910



STANDARDS DETERMINATION DOCUMENT
Authorization 2704459 Term Grazing Permit Renewal on the
Steptoe (00415) Allotment

Standards and Guidelines Assessment

The Standards and Guidelines for Nevada's Northeastern Great Basin Area were developed by the Northeastern Great Basin Area Resource Advisory Council (RAC) and approved in 1997. Standards and guidelines are likened to objectives for healthy watersheds, healthy native plant communities, and healthy rangelands. Standards are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines point to management actions related to livestock grazing for achieving the standards.

This Standards Determination Document evaluates and assesses livestock grazing management achievement of the Standards and conformance with the Guidelines for the Steptoe Allotment in the BLM Ely District. This document does not evaluate or assess achievement of the Wild Horse and Burro or the Off Highway Vehicle Standards or conformance to their respective Guidelines.

The Standards were assessed for the Steptoe Allotment by a BLM interdisciplinary team. Documents and publications used in the assessment process include the Soil Survey of White Pine County (USDA-NRCS 1997); Ecological Site Descriptions for Major Land Resource Area 28B (USDA-NRCS 2003); Interpreting Indicators of Rangeland Health (USDI-BLM et al. 2000); Sampling Vegetation Attributes (USDI-BLM et al. 1996); and the National Range and Pasture Handbook (USDA-NRCS 1997); Winterfat Decline and Halogeton Spread in the Great Basin. (Kitchen et al. 2001); Halogeton grazing management: historical perspective. *Journal of Range Management* (Young 2002). A complete list of references is included at the end of this document. All are available for public review in the BLM Ely District Office. The interdisciplinary team used rangeland monitoring data, professional observations, and photographs to assess achievement of the Standards and conformance with the Guidelines.

The Steptoe Allotment encompasses approximately 56,181 public land acres within the Ely BLM District. The grazing allotment occurs entirely within White Pine County, and is situated approximately 14 miles north of Ely, Nevada (Appendix II, Figure 1). A portion (approximately 11%) of the Steptoe Allotment occurs within the Triple B Wild Horse Herd Management Area (Appendix II, Figure 5). This allotment is located within Steptoe Valley crescents-spot butterfly, goshawk, rocky mountain big horn sheep, sage grouse, pygmy rabbit, deer, elk, and antelope habitat. A small portion (< 1%) of the Bristlecone Wilderness occurs within the south-western portion of the Steptoe Allotment (Appendix II, Figure 5).

The current term permit is issued for the period of 6/23/2000 to 6/23/2010. This is a cattle permit with a total grazing preference of 4,525 AUMs from March 1 to February 28. Of these 4,525 AUMs, 2,836 AUMs are active and 1,689 AUMs are suspended nonuse. The season of use on this allotment is from 3/1 to 2/28 (Appendix II, Figure 4).

Native vegetation varies throughout the Steptoe Allotment and includes [curl-leaf mountain mahogany](#), (*Cercocarpus ledifolius*), Utah juniper (*Juniperus osteosperma*), singleleaf pinyon

pine (*Pinus monophylla*), four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), winterfat (*Krashennikovia lanata*), basin big sagebrush (*Artemisia tridentata* var. *tridentata*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), mountain big sagebrush (*Artemisia tridentata* var. *vaseyana*), black sagebrush (*Artemisia nova*), black greasewood (*Sarcobatus vermiculatus*), spiny hopsage (*Grayia spinosa*), basin wildrye (*Leymus cinereus*), Indian ricegrass (*Achnatherum hymenoides*), squirreltail (*Elymus elymoides*), needleandthread (*Hesperostipa comata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), alkali sacaton (*Sporobolus airoides*), alkali cordgrass (*Spartina gracilis*), sedge (*Carex* sp.), rush (*Juncus* sp.), and saltgrass (*Distichlis spicata*).

Twelve key areas have been established in four of the seven pastures and have been monitored since the 1992 Final Multiple Use Decision (FMUD). These 12 key areas on the Steptoe Allotment were placed based on accessibility and general use by livestock, vegetation, and ecological range sites (Appendix II, Figure 2).

PART 1. STANDARD CONFORMANCE REVIEW

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 potential of the site.

Determination:

Achieving the Standard

Not Achieving the Standard, but making significant progress towards achieving

Not Achieving the Standard, and not making significant progress toward standard

Causal Factors

Livestock are a causal factor to not achieving the standard.

Livestock are not a causal factor to not achieving 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

Conclusion: Standard Achieved

Rangeland monitoring data and professional observation indicates that infiltration and permeability rates are being maintained on the Steptoe Allotment. Cover values measured at key areas in 2009 using the line-point intercept method were commonly within the range or exceeded cover values presented in the Ecological Site Descriptions (ESD) (Appendix I, Table 1.1 and 1.2).

Key area's 1 and 2 occur within a loamy 8-10 in. precipitation zone (P.Z.) ecological site (028BY010NV) based on soil surveys and ecological site descriptions developed by the Natural Resource Conservation Service (NRCS) (USDA – NRCS. 2003). This site occurs on fan piedmonts, rock pediments and low rolling hills. Slopes range from 2 to 50 percent, but slope gradients of 4 to 15 percent are most typical. Elevations are 5000 to 6500 feet. The soils in this site are moderately deep to deep and well drained. The available water holding capacity varies with soil texture and soil depth, ranging from low to moderate. Surface soils are 3 to 10 inches thick and are moderately coarse to medium textured. Many soils are modified with a high volume of gravels, cobbles or stones throughout the profile. Runoff is medium. The potential for sheet and rill erosion is moderate to high depending on slope. Wyoming big sagebrush, Indian ricegrass, and needle-and-thread grass are dominant. Live vegetation cover estimated for this ecological site is 10-20 percent (USDA – NRCS. 2003). Vegetation cover values measured in 2009 for key areas 1 and 2 were 25 and 10 percent respectively. Additional indicators of infiltration and permeability rates (i.e. rills, gullies, water flow patterns, pedestals, wind souring, blowouts, depositional features, microbiotic crust presence, etc.) were appropriate to soil type, climate and land form.

Key areas 3, 4, 5, 6, 7, 11, and 12 occur within a coarse, silty 6-8 in. P.Z ecological site (028BY084NV). This site occurs on inset fans, fan piedmont summits, off-set bars, lake terraces and fan skirts. Slopes range from 0 to 15 percent, but slope gradients of 2 to 8 percent are most typical. Elevations are 5800 to 6500 feet. The soils in this site are typically coarse textured throughout the profile, or at least in the upper profile. Permeability is moderate to moderately rapid with low available water holding capacity. Potential for sheet and rill erosion is slight. Vegetation cover for this ecological site is expected to be 10-20 percent (USDA – NRCS. 2003). Cover values measured in 2009 at key areas 3, 4, 5, 6, 7, 11, and 12 were 15, 19, 12, 19, 18, 21, and 16 percent, respectively. Additional indicators of infiltration and permeability rates (i.e. rills, gullies, water flow patterns, pedestals, wind souring, blowouts, depositional features, microbiotic crust presence, etc.) were appropriate to soil type, climate and land form.

Key area 8 occurs within a saline meadow ecological site (028BY002NV). This site occurs along axial-stream floodplains, and around seeps and springs. Slopes range from 0 to 4 percent, but slope gradients of 0 to 2 percent are most typical. Elevations are 5000 to 6300 feet. The soils in this site are deep to very deep and poorly to somewhat poorly drained. These soils are strongly salt and sodium affected in the upper profile with soil reaction and salinity decreasing with depth. There is a water table near the surface for short periods in the early spring that usually stabilizes at depths below 40 inches during the summer. Capillary rise of this ground water enhances soil moisture during the growing season. Additional moisture is received on this site as run-in from higher landscapes or as overflow from adjacent streams. Runoff is slow to very slow and there may be some brief ponding in depressional areas. These soils are susceptible to gullying which intercepts normal stream overflow patterns and results in site degradation. Approximate ground cover for this site is expected to be 15-25 percent based upon ESD estimates (USDA – NRCS. 2003). The cover value measured in 2009 at key area 8 was 30 percent. Additional indicators of infiltration and permeability rates (i.e. rills, gullies, water flow patterns, pedestals, wind souring, blowouts, depositional features, microbiotic crust presence, etc.) were appropriate to soil type, climate and land form.

Key area's 9 and 10 occur within a shallow calcareous loam 8-10 in. P.Z. ecological site (028BY011NV). This site occurs on summits and sideslopes of lower piedmont slopes and low hills on all exposures. Slopes range from 2 to 50 percent, but slope gradients of 2 to 15 percent are most typical. Elevations are 5000 to 6500 feet. The soils in this site are typically shallow and well drained. They usually have a hardpan or restrictive layer within the main rooting depth. Most of these soils are high in calcium carbonates, especially in the subsoil. Soil textures are generally loams to gravelly loams. The available water holding capacity is very low to low, water intake rates are slow to moderate and runoff is slow to medium. The estimated ground surface cover for this ecological site is expected to be 10-20 percent based on the ESD (USDA – NRCS. 2003). Cover values measured in 2009 at key areas 9 and 10 were 31 and 16 percent respectively. Additional indicators of infiltration and permeability rates (i.e. rills, gullies, water flow patterns, pedestals, wind souring, blowouts, depositional features, microbiotic crust presence, etc.) were appropriate to soil type, climate and land form.

Key areas do not occur within the Egan bench, Dry Canyon, or Shep Field pastures. The majority of lands accessible to cattle within the Egan Bench and Dry Canyon pastures are represented by the Loamy 8-10 in. precipitation zone (P.Z.) ecological site (028BY010NV) and shallow calcareous loam 8-10 in. P.Z. ecological site (028BY011NV) discussed above. BLM lands within the Shep Field pasture are dominated by the Duffer soil series or Kunzler-sycomat association. The Duffer series consists of very deep, poorly drained soils that formed in mixed alluvium and lake sediments. These soils are on axial-stream flood plains and alluvial flats. Dominant vegetation for this soil series consist of black greasewood, basin wildrye, alkali sacaton, and alkali cordgrass. The Kunzler series consists of very deep, well drained soils that formed in mixed alluvium. These soils are on stream terraces, fan piedmont remnants, and inset fans. The Sycomate series consists of very deep, well drained soils that formed in mixed alluvium. These soils are on fan skirts and fan piedmont remnanats. Dominant vegetation for the Kunzler-sycomat association consists of basin big sagebrush, Wyoming big sagebrush, shadscale, basin wildrye, and squirreltail (USDA – NRCS. 2003). Based on professional observation canopy and ground cover are appropriate across the Egan bench, Dry Canyon, and Shep Field pastures. Additional indicators of infiltration and permeability rates (i.e. rills, gullies, water flow patterns, pedestals, wind souring, blowouts, depositional features, microbiotic crust presence, etc.) were appropriate to soil type, climate and land form.

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.

The above indicators shall be applied to the potential of the site.

Determination:

Achieving the Standard

Not Achieving the Standard, but making significant progress towards

Not Achieving the Standard, and not making significant progress toward standard

Causal Factors

Livestock are a causal factor to not achieving the standard.

Livestock are not a causal factor to not achieving 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

Conclusion: Standard Achieved

Billy Pope Spring, Mud Spring, Water Canyon Spring, and Water Canyon Stream were visited and assessed in 2009 by an interdisciplinary team. These riparian areas all had adequate vegetation (i.e. diverse composition, diverse age class distribution, species with strong and dense root masses, vigorous, and high cover values), and/or rock present to dissipate stream energy associated with high water flows. Hydrological indicators (i.e. access to floodplain, channel characteristics in balance with landscape, saturation, no excessive water fluctuations, potential extent is achieved, upland watershed is in balance with riparian system, water quality, no excessive disturbance, and safe flow passage) and erosion/deposition indicators (i.e. no chemical accumulation, hydric soil maintenance, perched water source, no excessive erosion or deposition, stability, and adequate bank cover) illustrate that these riparian systems are functioning properly. As such each of these riparian systems was rated in the “proper functioning condition” class (See Appendix I, Table 2).

Two unnamed springs were not assessed because they are inaccessible to cattle. Another unnamed spring and one unnamed reservoir were also not assessed because they did not satisfy PFC assessment criteria. The Duck Creek Slough was not assessed because anthropogenic influences outside this allotment (i.e. irrigation, municipal, etc.) affect the timing, amount, rate of flow, and if water accesses this site. This anthropogenic influence creates a dynamic environment that is difficult for plants to get established and persist; therefore, it is difficult to

assess the slough functionality. It was observed that dense vegetation (i.e. rush sp., sedge sp., iris sp., etc.

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:

- Achieving the Standard
- Not Achieving the Standard, but making significant progress towards
- Not Achieving the Standard, not making significant progress toward standard

Causal Factors

- Livestock are a causal factor to not achieving the standard.
- Livestock are not a causal factor to not achieving 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

Conclusion:

Rangeland monitoring data (Appendix I) and professional observations indicate that pastures vary in their ability to provide suitable wildlife habitat as a function of vegetation composition, structure, distribution, and productivity. Historical overgrazing, a lack of natural disturbance (e.g. fire), and drought over the past decade have influenced such vegetation characteristics. However, 2009 was a favorable year for some plant communities (e.g. winterfat and crested wheatgrass) due to the abundant spring precipitation received. In addition, combined use levels by wildlife, wild horses, and domestic livestock as well as the livestock grazing management system have influenced the vegetation parameters that provide wildlife habitat.

The Egan Bench and Dry Canyon pastures are not meeting the standard. Based upon professional observation, production in these pastures conforms to the ESD's. Utilization levels were also appropriate within these pastures based on use-pattern mapping as exhibiting slight (1-20%) use in the Egan Bench pasture and light use (20-40%) in the Dry Canyon pasture (Appendix I, Figure 1). Vegetation composition, structure, and diversity do not reflect a healthy ecosystem based on professional observation. Shrubs overwhelmingly dominate these pastures,

which are lacking an herbaceous understory. In addition to the low understory abundance, there is a lack of diversity and recruitment. Pinyon-juniper encroachment is also occurring on the benches within these pastures, indicating a vegetation transition due to the separation between plant communities and their natural disturbance regimes. Lacking natural disturbances such as fire within these community types results in a natural vegetation succession to greater shrub and tree dominance within the plant community.

The South Steptoe seeding pasture is achieving the standard. This pasture was seeded with crested wheatgrass, which is a non-native species and therefore diverges from the ESD in species composition. However, crested wheatgrass is a deep-rooted perennial bunchgrass, functioning similar to native bunchgrasses; therefore this seeding will function similar to native plant communities so comparisons with the ESD's can facilitate ecological health evaluations. Ground cover monitoring measured in 2009 at key areas 2 and 10 (occurring in the South Steptoe seeding pasture) were 10 and 16 percent, respectively, which is within the range presented in the ESD's (10-20% and 15-20%, respectively) (Appendix I, Table 1.2). At key area 10, production was measured at 433 lbs/acre, which is within the range of 250-600 lbs/acre presented in the ESD (Appendix I, Table 1.3a). Key area 10 had a shrub, grass, forb, and weed composition by weight of 46.2, 42, 0, and 11.8 percent, respectively, which is similar to ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Production was not measured for key area 2, however shrub, grass, forb, and weed composition by cover was 40, 60, 0, and 0 percent respectively, which is similar to the composition by weight presented in the ESD (45% shrubs, 50% grasses, 5% forbs)(Appendix I, Table 1.2). Vegetation structure and diversity within this pasture is appropriate for a crested wheatgrass seeding based on professional observation. Average utilization by wildlife and cattle on crested wheatgrass at key areas 2 and 10 between 1997 and 2004 was 62% and 64% respectively (Appendix I, Table 1.4). Photographic monitoring from 1996 to 2009 indicates that crested wheatgrass density has declined slightly with an increase in rabbitbrush and Russian thistle.

The North Steptoe seeding pasture is failing to achieve the standard. This pasture is similar to the South Egan Seeding pasture in that it was also seeded with crested wheatgrass. However, range condition differs. Ground cover monitoring measured in 2009 at key areas 1 and 9 (occurring in the North Steptoe seeding pasture) were 25 and 31 percent, respectively, which exceeded the range presented in the ESD's (10-20% and 15-20%, respectively) (Appendix I, Table 1.2). At key areas 1 and 9, production was measured at 1058 and 562 lbs/acre respectively, which exceeds and is within the ESD ranges of 400-800 and 250-600 lbs/acre respectively (Appendix I, Table 1.3a). Key area 1 had a shrub, grass, forb, and weed composition by weight of 96.7, 3.3, 0, and 0 percent, respectively, which diverges from ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Key area 9 had a shrub, grass, forb, and weed composition by weight of 88.8, 10, 1.1, and 0.2 percent, respectively, which diverges from ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Based on the composition by cover (Appendix I, Table 1.2) and professional observation, vegetation composition and structure are not representative of a healthy ecosystem (i.e. energy, nutrient, and hydrologic cycling are occurring in a natural and sustainable manner). However, the diversity within this pasture is appropriate for a crested wheatgrass seeding based on professional observation. Average utilization on crested wheatgrass at key area 1 and 9 from 1997 to 2009 by wildlife, wild horses, and cattle was 57.2 and 78 percent

respectively (Appendix I, Table 1.4). In reviewing photographs from 1996 to 2009, a downward trend appears at both key areas 1 and 9b (near key area 9 where photographs have been taken since 1996). At key area 1 Wyoming big sagebrush cover and production has increased while crested wheatgrass cover and production has decreased at faster successional rates than naturally occur. At key area 9b, crested wheatgrass has been lost to halogeton.

The North Slough pasture fails to achieve the Standard. Ground cover monitoring measured in 2009 at key areas 11 and 12 (occurring in the North Slough pasture) were 21 and 16 percent, respectively, which conformed with the range presented in the ESD's (10-20%) (Appendix I, Table 1.2). At key areas 11 and 12, production was measured at 676 and 439 lbs/acre respectively, which is within the ESD's range of 400-900 lbs/acre (Appendix I, Table 1.3a). Key area 11 had a shrub, grass, forb, and weed composition by weight of 77.5, 5.2, 7.8, and 9.5 percent, respectively, which is different from ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Key area 12 had a shrub, grass, forb, and weed composition by weight of 92.7, 7.3, 0, and 0 percent, respectively, which differs from ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Key area 11 has an altered structural component in that halogeton is a large component (Appendix I, Table 1.2). Key area 12 is also altered in that no forbs exist and shrubs dominate the site (Appendix I, Table 1.2). Average utilization on winterfat at key area 11 from 1999 to 2009 by wildlife and cattle was 53% (Appendix I, Table 1.4). Average utilization at key area 12 from 1999 and 2009 by wildlife and cattle was 19% on winterfat and 49% on Indian ricegrass (Appendix I, Table 1.4). In reviewing photographs from 1996 to 2009, trends appeared downward at key area 11. Much of the winterfat and grasses at key area 11 has been replaced by halogeton. Photographic monitoring at key area 12 indicates that the interior winter fat community is stable; however, halogeton has increased on periphery of the winterfat community. Based on professional observation, halogeton has replaced many salt-desert shrub plant communities.

The Shep Field pasture is meeting the standard. Based upon professional observation, production conforms to the ESD's estimated production values. Utilization levels were appropriate within this pasture based on use-pattern mapping as exhibiting light or slight use through the majority of the pasture (Appendix I, Figure 1). Vegetation composition, structure, and diversity also reflect a healthy ecosystem based on professional observation.

The Duck Creek Flat pasture is not achieving the standard, but making significant progress toward achieving the standard. Ground cover monitoring measured in 2009 at key areas 3, 4, 5, 6, 7, and 8 (occurring in the South Steptoe seeding pasture) were 15, 19, 12, 19, 18, and 39 percent, respectively, which is within or exceeding the range presented in the ESD's (Appendix I, Table 1.2). Production was measured at 400, 477, 409, and 403 lbs/acre for key areas 3, 4, 5, and 7, which is within the range of 400-900 lbs/acre presented in the ESD (Appendix I, Table 1.3a). Key area 3's composition by weight was 100 percent shrubs, diverging from ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Key area 4 had a shrub, grass, forb, and weed composition by weight of 35.2, 64.8, 0, and 0 percent, respectively, which is similar to ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Key area 5 had a shrub, grass, forb, and weed composition by weight of 99, 0, 0, and 1 percent, respectively, which diverges from ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Key area 7 had a shrub, grass, forb, and weed composition by

weight of 92.6, 7.4, 0, and 0 percent, respectively, which is not similar to ESD estimates of 45% shrubs, 50% grasses, and 5% forbs (Appendix I, Table 1.3b). Production was not measured for key areas 6 or 8, however composition by cover for key area 8 was 13.2% shrubs, 84.2% grasses and grass-like species, and 2.6% forbs (Appendix I, Table 1.2), which is similar to ESD estimates of composition by weight (Appendix I, Table 1.3b). Composition by cover (Appendix I, Table 1.2) for key area 6 was different from ESD estimates of composition by weight (Appendix I, Table 1.3b) by having 100 percent shrub community composition. Even though the values differed between key areas 3, 5, 6, and 7 and their ecological sites, winterfat areas are often near monocultures, which it not reflected in the ESD (Kitchen and Jorgensen, 2001; Young, 2002). Based on professional observation, this pasture does exhibit structural diversity and contains a diverse array of species and plant communities, which provides valuable wildlife habitat. Average utilization by wildlife and cattle at key areas 3, 4, 5, 6, and 7 for winterfat and (Indian ricegrass) were 53 (38), 46 (57), 47 (55), 49 (not measured), and 55 (not measured) percent respectively (Appendix I, Table 1.4). Average utilization by wildlife and cattle at key area 8 on grass and grass-like species was 19 percent (Appendix I, Table 1.4). Photographic monitoring from 1996 to 2009 indicates that little change has occurred at key areas 3, 4, 6, and 8. Based on photographic monitoring, halogeton has increased slightly and bunchgrasses have decreased slightly at key area 7. At key area 5 halogeton has increased as a result of new animal trails forming.

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 possibly 50% of potential sage-grouse habitat within the Butte Valley/White Pine and the Antelope/White Pine PMUs 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 and adequate sagebrush cover”. Based on the cover data collected for the Steptoe Allotment, some of the sagebrush habitat communities at the key areas and study areas measured within the allotments fall under this category.

Two of the 12 study sites within the Steptoe Allotment are Wyoming big sagebrush ecological sites and two are black sagebrush ecological sites. All four sites have been seeded with crested wheatgrass in the past. As such, they are not considered to be in current or potential sage-grouse habitat.

There are two active leks and one unknown lek within the allotment. There is one unknown, one inactive, and one historic lek within three miles according to the NDOW data used by BLM. Steptoe 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 and the Antelope/White Pine Population Management Units (PMUs).

Site specific evaluation of sage-grouse habitat guidelines should be tempered with consideration of site potentials described in the ESD. Because some of the pastures in the Steptoe Allotment are not meeting the desired vegetative composition for Standard 3 the allotment fails to meet the needs of the key “umbrella” species for sagebrush habitats identified in the Ely District Resource Management Plan (2008).

The Pygmy rabbit (*Brachylagus idahoensis*) is not currently known within the allotment. The allotment does have potential habitat for the pygmy rabbit, such habitat consisting of tall areas of sagebrush growing in deep friable soils. The pygmy rabbit is dependent on sagebrush for a large portion of its diet.

The Steptoe Valley crescent-spot (*Phyciodes pascoensis*) butterfly is known within and within three miles of the allotment. Most of the identified locations are thought to be on private land. It is thought that the host plants for the species’ larval form is several species of aster with lavender colored flowers.

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

According to the Standards and Guidelines for Nevada’s Northeastern Great Basin Area, it must be determined if livestock grazing is a significant factor in the non-attainment of the Standards and Guidelines (BLM 1997).

Standard #1: Upland Sites

The Standard is being achieved.

Standard #2: Riparian and Wetlands

The Standard is being achieved.

Standard #3: Habitat

The Standard is not achieved across the allotment as a whole; however, some pastures are achieving the standard. The current grazing management system restricts grazing to occur in the same pasture, at the same time, year after year. This allows palatable plants to complete their life-cycle every year within certain pastures (e.g. Duck Creek Flat pasture); however, in other pastures palatable species don't ever get to complete their life-cycle. For example, in the North and South Steptoe seeding pastures, crested wheatgrass is the primary forage utilized between 4/16 and 6/30 (the dates on the permit). Grazing at this time removes vegetative and reproductive material prior to seed ripe. This is also the timeframe when resources (i.e. water and nutrients) become limited, restricting plants from producing seed. Continuous years of grazing in this manner limit crested wheatgrass recruitment/regeneration, which is necessary to maintain the seeding. Such a restriction in the grazing management will discourage crested wheatgrass.

Utilization within the Egan Bench and Dry Canyon pastures was light in 2009; therefore, current grazing is not considered to be a contributing factor to not meeting standard three. With Pinyon-juniper encroachment occurring on the benches and with fire indicators lacking, it is known that the majority of these pastures have been fire free for >100 years. Without fire in these communities to restore the balance between shrubs, grasses, and forbs, the vegetation community will remain dominated by shrubs and trees.

The standard is being achieved in the South Steptoe seeding; however, photographic evidence of a crested wheatgrass density decline and an increase in green rabbitbrush and Russian thistle may be a result drought over the past decade. Since 2001, seven of the past nine years have been below the 30 year precipitation average (Appendix I, Table 4.1 and Figure 2). In concert with drought, heavy (61-80%) utilization levels may be a compounding factor to the slight vegetation change.

The North Steptoe seeding is failing to achieve standard three. Heavy utilization levels by wildlife, wild horses, and cattle in concert with many droughty years over the past decade have resulted in a downward trend in range condition. The 1992 Steptoe Final Multiple Use Decision (FMUD) allocated zero AUM's to wild horse use; however, wild horse use (as many as 16 head) has been observed in this pasture. Actual licensed cattle use in this pasture from 2002 to 2009 was 31 percent (Appendix I, Table 3.2); therefore cattle use is not considered to be the primary or secondary factor to failing to achieve standard three.

The North Slough pasture is failing to achieve the standard. In addition to the drought, an administrative error has been encountered in the Animal Unit Months calculation. The percent public land (%P.L.) was calculated at 43%, which precedes the 1992 Steptoe FMUD. This calculation most likely included the base property of authorization #2704459 when it was unfenced. However, a fence was erected and the %P.L. was never adjusted. This means that less private land area was available for grazing use due to fencing the private lands. Therefore more cattle grazed the public lands resulting in stocking levels exceeding the carrying capacity of the public lands. Stocking levels should have been reduced from 361 cattle to about 165 cattle for the same duration when the fence was constructed, which reduced the percent of private land and increased the public land percentage actually being grazed. If the correct %P.L. was used (i.e. 94

%P.L. instead of 43 %P.L.), then AUM's were over allocated from 2003 to 2008 and were most likely over allocated for much of this pasture's history. This administrative error resulting in over-allocating AUM's can be primarily attributed to this pasture's failing to meet standard three.

The Shep field pasture is meeting the standard.

The Duck Creek Flat pasture is not meeting the standard, but is making significant progress toward achieving the standard.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

Standard #1: Upland Sites

The allotment is conforming to the guidelines.

Standard #2: Riparian and Wetlands

The allotment is conforming to the guidelines.

Standard #3: Habitat

The allotment is conforming to the guidelines.

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

Allotment Management Plan

- II. The allotment goal is to use grazing animals to promote sustainable, healthy, productive, and diverse populations of desirable plants and plant communities, providing for multiple-use benefits.
 - A. South Steptoe seeding pasture
 1. Goal: Promote crested wheatgrass and discourage Russian thistle site occupancy.
 - a. Objective 1: Maintain $\geq 5\%$ grass cover in this pasture over the next 10 years (at key area 10 and 2).**
 - b. Objective 2: Maintain $\leq 5\%$ Russian thistle cover.**
 - B. North Slough pasture
 1. Goal: Maintain healthy and productive winterfat communities.
 - a. Objective 1: Maintain $\geq 10\%$ winterfat cover (at key area 12 and intact key area 11).**
 - C. Duck Creek Flat pasture
 1. Goal: Maintain healthy and productive winterfat/Indian ricegrass communities.
 - a. Objective 1: Maintain $\geq 10\%$ winterfat and deep-rooted perennial bunchgrass cover (at key area's 3-7).**

D. Goals and objectives for the Egan Bench, Dry Canyon, North Steptoe seeding, and Shep Field pastures will be developed after quantitative baseline data is measured and/or following vegetation treatments.

***When comparing monitoring data to these objectives, the BLM must consider that these cover values were measured during a productive year. Objective values presented above are to reflect parameters that should be achievable to maintain during normal and above normal precipitation years.*

- III. BLM’s responsibilities towards accomplishing goals and objectives, achieving the Northeastern Great Basin Area Standards, and conforming to the guidelines:
 - A. Fix % Public Land calculation so that pasture AUM’s is not beyond the carrying capacity.
 - B. Provide permittees with pasture maps in order to conduct use pattern mapping.
 - C. Place key areas in every pasture.
 - D. Establish a riparian monitoring protocol.
 - E. Continue monitoring:
 - 1. Photographs should be taken at key areas every year.
 - 2. Utilization should be taken every two years; however, it is recommended every year.
 - 3. Cover and production data should be collected once every ten years; however, it is recommended that it is collected every three to five years.

***Pay particular attention to the AUM’s in the North Slough, making sure that AUM allocation is not exceeding carrying capacity.*

IV. Permittee’s responsibilities towards accomplishing goals and objectives, achieving the Northeastern Great Basin Area Standards, and conforming to the guidelines:

A. Mandatory Terms and Conditions (proposed for new permit)

Mandatory Terms and Conditions (proposed for new permit).

Pasture	Livestock #	Kind	Grazing Begin	Grazing End	% Public Land	AUM's
Egan Bench	15	Cattle	3/1	2/28	100	189
Dry Canyon	37	Cattle	3/1	2/28	100	454
South Steptoe seeding	25	Cattle	3/1	2/28	100	300
North Steptoe seeding	10	Cattle	3/1	2/28	100	247
North Slough	48	Cattle	3/1	2/28	94	546
Shep Field	470	Cattle	6/15	10/15	5	94
Duck Creek Flat	225	Cattle	10/16	2/28	100	1006

Refer to Appendix II, Figure 4 for current Mandatory Terms and Conditions. Changes made to the Mandatory Terms and Conditions include the seasons of use for the Egan Bench, Dry Canyon, South Steptoe seeding, North Steptoe seeding, and North Slough pastures; however, the AUM’s remain the same. These dates replaced the restrictive dates on the previous permit, which were inhibiting progress towards achieving standard three. This new season of use adds flexibility to the management system in order for adaptive management techniques to be

employed. However, in order to prevent poor management as a result of such flexibility, "Other Terms and Conditions" MUST be followed.

B. Other Terms and Conditions

1. Permittee agrees to place 127 AUM's of their 247 AUM's in the North Steptoe Seeding into voluntary non-use for conservation purposes for a period of 5 years starting 3/1/2010.
2. Livestock numbers are flexible as long as permitted use (i.e. AUM's) is not exceeded during the authorized season of use.
3. Permittee, through livestock control, will leave enough photosynthetic material to promote production and re-growth. Maximum utilization levels are 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 shrubs and half-shrubs: 50% use on current annual production.
This use level is necessary to allow desirable perennial key browse species to develop branchlets and woody stature able to withstand the pressure of grazing use. Use would be read in April or prior to the spring re-growth. Use during spring contributes to following season's use level.
 - Crested wheatgrass: 65% 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.
4. Permittee will move livestock to another authorized pasture or from the allotment no later than 5 days following attainment of maximum utilization levels. Any deviation in livestock movement will require authorization from the authorized officer.
5. Salt and/or mineral supplements for livestock must be located at least ½ mile from water sources, riparian areas, winterfat bottoms, sensitive sites, and cultural resource sites. Such supplements may be used to encourage livestock distribution.
6. Permittee must employ short duration grazing where applicable (as opposed to season long or continuous grazing).

This encourages a single defoliation event on a plant, which is much more beneficial to the plant than multiple defoliations. Multiple defoliation events on a plant retard root-growth, causing a decrease in total absorptive surface. Decreasing the total absorptive surface decreases total plant growth and reduces carbohydrate reserves necessary to maintain plant vigor.

7. Permittee and Range Management Specialist must meet on an annual basis to develop a grazing plan for that year prior to the start of the grazing season.

C. Additional Stipulations Common to All Grazing Allotments:

10. Livestock numbers identified in the Term Grazing Permit are a function of seasons of use and permitted use. 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 allotment.
11. 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 use.
12. The authorized officer is requiring that an actual use report (form 4130-5) be submitted within 15 days after completing your annual grazing use.
13. Grazing use will be in accordance with the Standards and Guidelines for Grazing Administration. The Standards and Guidelines have been developed by the respective Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR Subpart 4180 - Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.
14. 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.
15. 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 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

16. 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.
17. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.
18. 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.

V. Vegetation Treatment Recommendations

- A. Mow and reseed (if necessary) the North Steptoe seeding pasture. *Drought and the compounded effects of over-utilization by wildlife, wild horses, and livestock have reduced grass production and cover, resulting in shrub or halogeton dominant communities. Rehabilitating this site will: 1) restore the natural functionality of ecosystem processes (i.e. water, nutrient, and energy cycling), 2) restore the structural components necessary for providing adequate habitat to a diversity of wildlife species, and 3) provide AUM's for livestock, allowing a deferred rotation grazing management system to be established (without this pasture being rehabilitated, a deferred rotation system is not feasible/applicable). If this treatment is conducted prior to 3/1/2015, voluntary non-use AUMs may be reinstated prior to the 5 year non-use period stated above (i.e. Number 1 of the Other Terms and Conditions).*
- B. Complete a vegetation treatment on the large halogeton patches in the North Slough pasture and write a grazing prescription that promotes restoration success. *Due to an AUM calculating error that resulted in exceeding the carrying capacity, halogeton has invaded many salt-desert shrub communities. Correcting the calculating error will correct the carrying capacity issue. Restoring these communities would: 1) restore the natural functionality of ecosystem processes (i.e. water, nutrient, and energy cycling), 2) restore the compositional and structural components necessary for providing adequate habitat to a diversity of wildlife species, 3) provide forage for wildlife and livestock, and 4) prevent animal poisonings.*
- C. Prescribed burning or mowing in the Egan Bench and Dry Canyon pastures. *Drought, historical overgrazing, and fire suppression has created a disjunction in natural fire regime within these plant communities. The benefits received from a successful prescribed fire may include, but is not limited to: 1) restore the natural functionality of ecosystem processes (i.e. water, nutrient, and energy cycling), 2) restore community resilience, 3) restore the compositional and structural components necessary for providing adequate habitat to a diversity of wildlife species (may be of particular importance to sage-grouse nesting habitat as leks are nearby[Connelly et al. 2000]), and 4) provide forage for wildlife and livestock.*

- D. Inserting a new fence in the North Slough pasture and transforming the temporary fence into a permanent fence within the Duck Creek Flat pasture. *The new fence would separate the slough vegetation community types from the upland winterfat and sagebrush vegetation communities. This would benefit vegetation communities on both sides of the fence - since winter grazing in these upland community types is more beneficial to the desired plant community and the bottomlands (slough) are more conducive to summer grazing - by allowing more location and timing control of livestock. Transforming the temporary fence into a permanent fence within the Duck Creek Flat pasture would also allow more location and timing control of livestock. More livestock control would permit a rotation system to be inserted, providing for better resource management.*
- E. Without any of the previous recommendations being implemented, it is not feasible/applicable to the permittee to establish a rotation system. Currently, a rest rotation system is not applicable due to: 1) The south Steptoe seeding and North Steptoe seeding are the only pastures that can provide feed in the early spring; however there is not enough feed in the North Steptoe seeding for a spring/fall rotation, 2) the Shep Field vegetative growth occurs later into the year; therefore it is best suited for summer and fall grazing, and 3) the Duck Creek Flat pasture has a large composition of winterfat; therefore being well suited for winter grazing. Without)
- VI. Terms of permittee flexibility.
- A. The permittee is granted (permission NOT a right) with the flexibility to adjust operations without prior approval of the authorized officer as long as they (permittee) do not step outside the bounds of the “Mandatory Terms and conditions” and “Other Terms and conditions” stated above. However, the permittee must report such adjustments annually prior to the new grazing year (3/1). If such adjustments stray from: accomplishing the goals and objectives stated above (Section I.), achieving the Northeastern Great Basin Area Standards, or conforming to the guidelines; then the authorized officer: 1) shall take the necessary measures to making significant progress towards accomplishing the goals and objectives, achieving the Northeastern Great Basin Area Standards, and conforming to the guidelines, and 2) may relinquish the permittee’s flexibility.
- VII. Adaptive Management
- A. Adaptive management will be employed as part of this allotment management plan. Adaptive management conforms with the Ely District Approved Resource Management Plan which states

“The Interior Departmental Manual 516 DM 4.16 defines adaptive management as “a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes and, if not, facilitating management changes that would best ensure that outcomes are met or re-evaluate the outcomes.” The Ely District Office recognizes that specific knowledge regarding natural

resource systems is sometimes uncertain and in those situations, adaptive management is the preferred management method.

Adaptive management is a formal, systematic, and rigorous approach to learning from the result of management actions, accommodating change, and improving management. It involves synthesizing existing knowledge, exploring alternative actions, and making explicit forecasts about their results. Management actions and monitoring programs are carefully designed to generate reliable feedback and clarify the reasons underlying results. Actions and objectives are then adjusted based on this feedback and improved understanding. In addition, decisions, actions, and results are carefully documented and communicated to others, so that knowledge gained through experience is passed on rather than lost when individuals move or leave the organization.

Goals, objectives, special designations, and allocations could not be changed through adaptive management. Plan amendments would be required to change these decisions. Implementation or activity level decisions could be adapted. Future activity level plans would follow NEPA procedures and involve the public.”

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Date

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Date

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

Date

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APPENDIX I DATA SUMMARY

1. KEY AREAS AND ECOLOGICAL SITES

A key area is a relatively small portion of a pasture or allotment selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that key areas, if properly selected, will reflect the current grazing management over the pasture or allotment as a whole (NRCS 1997). Key areas represent range conditions, trends, seasonal degrees of use, and resource production and values. Table 1.1 depicts the Steptoe allotment key area ecological sites and dominant native vegetation associated with each site.

Table 1.1 Steptoe allotment Key Areas

Key Area	Ecological Site	Dominate Species	Seeded
1	Loamy 8-10 P.Z. (028BY010NV)	Wyoming big sagebrush, Indian ricegrass, and needleandthread grass	crested wheatgrass
2	Loamy 8-10 P.Z. (028BY010NV)	Wyoming big sagebrush, Indian ricegrass, and needleandthread grass	crested wheatgrass
3	Coarse Silty 6-8 P.Z. (028BY084NV)	winterfat, Indian ricegrass	--
4	Coarse Silty 6-8 P.Z. (028BY084NV)	winterfat, Indian ricegrass	--
5	Coarse Silty 6-8 P.Z. (028BY084NV)	winterfat, Indian ricegrass	--
6	Coarse Silty 6-8 P.Z. (028BY084NV)	winterfat, Indian ricegrass	--
7	Coarse Silty 6-8 P.Z. (028BY084NV)	winterfat, Indian ricegrass	--
8	Saline Meadow (028BY002NV)	Alkali sacaton, Alkali cordgrass	--
9	Shallow Calcareous Loam 8-10 P.Z. (028BY011NV)	black sagebrush, Indian ricegrass, and needleandthread grass	crested wheatgrass
10	Shallow Calcareous Loam 8-10 P.Z. (028BY011NV)	black sagebrush, Indian ricegrass, and needleandthread grass	crested wheatgrass
11	Coarse Silty 6-8 P.Z. (028BY084NV)	winterfat, Indian ricegrass	--
12	Coarse Silty 6-8 P.Z. (028BY084NV)	winterfat, Indian ricegrass	--

-- Not seeded

An ecological site is a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation (NRCS 1997). Ecological Site Descriptions (ESD) are used for inventory, evaluation, and management of native vegetation communities. The ecological site of a key area is determined based on several factors including soils, topography, and plant community.

1.2. COVER

Foliar cover was measured at all key areas in 2009 using the line-point intercept method (Table 1.2). Foliar cover is the percent of ground covered by a vertical projection of the aerial portions of the plants (USDA — USFS, NRCS, USDI — BLM, 1996). The line-point intercept method is a commonly used method for determining the relative percent live foliar cover of a range site by plant class (tree, shrub, grass, forb) or by plant species. Results can be interpreted in a general rangeland health framework and/or compared to the ESD's estimated cover values.

Table. 1.2 Vegetation cover measured in 2009 and estimates from the Ecological Site Description (ESD).

<u>Key Area</u>	<u>Estimated Ground</u>	<u>Ground Cover</u>	<u>Composition by cover measured in 2009</u>			
	<u>Cover from ESD</u>	<u>Measured in 2009</u>	<u>Shrubs</u>	<u>Grasses</u>	<u>Forbs</u>	<u>Weeds*</u>
1	10-20%	25	88.9%	7.4%	3.7%	0.0%
2	10-20%	10	40.0%	60.0%	0.0%	0.0%
3	10-20%	15	100.0%	0.0%	0.0%	0.0%
4	10-20%	19	36.8%	63.2%	0.0%	0.0%
5	10-20%	12	100.0%	0.0%	0.0%	0.0%
6	10-20%	19	100.0%	0.0%	0.0%	0.0%
7	10-20%	18	80.0%	20.0%	0.0%	0.0%
8	15-25%	39	13.2%	84.2%	2.6%	0.0%
9	15-20%	31	75.6%	24.4%	0.0%	0.0%
10	15-20%	16	43.8%	37.5%	0.0%	18.8%
11	10-20%	21	59.1%	13.6%	4.5%	22.7%
12	10-20%	16	88.9%	11.1%	0.0%	0.0%

*Includes: Halogeton, russian thistle, mustard species, bur buttercup, European stickseed

Cover values at key areas measured in 2009 were commonly within the range or exceeded cover values presented in the ESD. However, the composition by cover was generally skewed towards shrubs and away from the herbaceous component (grasses and forbs).

1.3. WEIGHT

Above ground annual production was estimated in 2009 using the double weight sampling method (Table 1.3a). Above ground annual production is the amount of air dry biomass (lbs/acre) produced annually. The double weight sampling method is a commonly used method for estimating the annual production amount for a range site by plant class (tree, shrub, grass, forb) or by plant species. Results can be interpreted in a general rangeland health framework and/or compared to the ESD's estimated production values.

Table 1.3a Annual production measured in 2009 and estimates from the Ecological Site Description (ESD).

Key Area	Estimated Annual Production from ESD*			*Measured Annual Production from 2009
	Favorable	Normal	Unfavorable	
1	800	600	400	1058
2	800	600	400	--
3	900	700	400	400
4	900	700	400	477
5	900	700	400	409
6	900	700	400	--
7	900	700	400	403
8	1500	1000	700	--
9	600	450	250	562
10	600	450	250	433
11	900	700	400	676
12	900	700	400	439

*Annual Production measured in Air Dried Weight (LBS/Acre)

-- Not measured

Production values include shrubs, grasses, forbs, and weeds.

Key areas were generally within the range of values described in the ESD. However, the composition by weight for many key areas was skewed towards shrubs (Table 1.3b).

Table 1.3b Composition by weight measured in 2009 and from the Ecological Site Description

Key Area	Estimated Composition by Weight from ESD			Composition by Weight measured in 2009			
	Shrubs	Grasses	Forbs	Shrubs	Grasses	Forbs	Weeds*
1	45%	50%	5%	96.7%	3.3%	0.0%	0.0%
2	45%	50%	5%	--	--	--	--
3	35%	55%	10%	100.0%	0.0%	0.0%	0.0%
4	35%	55%	10%	35.2%	64.8%	0.0%	0.0%
5	35%	55%	10%	99.0%	0.0%	0.0%	1.0%
6	35%	55%	10%	--	--	--	--
7	35%	55%	10%	92.6%	7.4%	0.0%	0.0%
8	5%	85%	10%	--	--	--	--
9	45%	50%	5%	88.8%	10.0%	1.1%	0.2%
10	45%	50%	5%	46.2%	42.0%	0.0%	11.8%
11	35%	55%	10%	77.5%	5.2%	7.8%	9.5%
12	35%	55%	10%	92.7%	7.3%	0.0%	0.0%

-- Not measured

*Includes: Halogeton, russian thistle, mustard species, bur buttercup, European stickseed

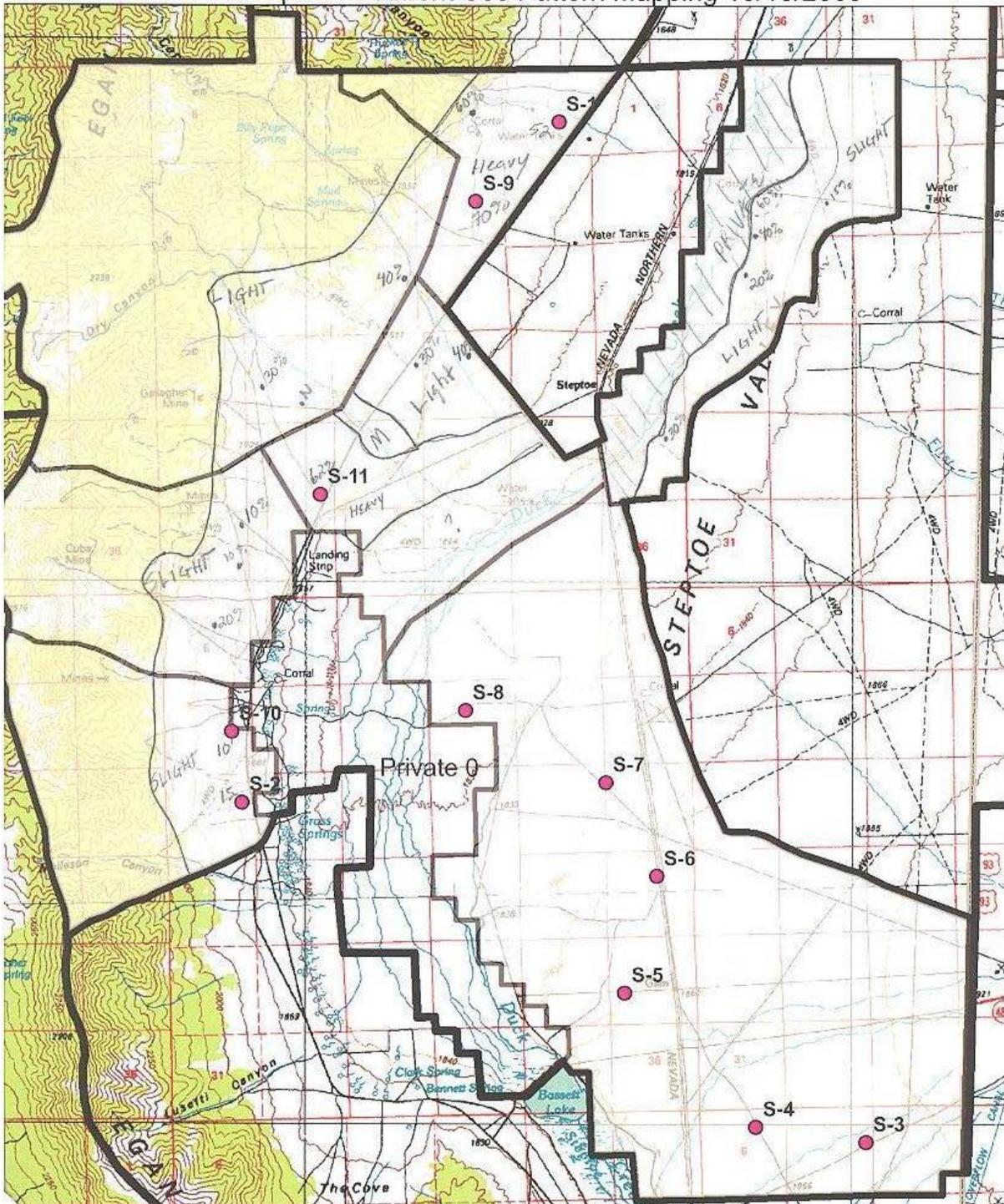
1.4. UTILIZATION

The key forage plant utilization method was used to collect utilization data at the key areas in 2009 (Table 1.4). Utilization is the estimation of the proportion of annual production consumed or destroyed by animals (Swanson 2006). The general utilization objective for all allotments in the Ely BLM District according to the Ely District Record of Decision and Approved Resource Management Plan (ROD/RMP – August, 2008) is to “Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health” (Ely RMP, p. 85). The Nevada Rangeland Monitoring Handbook gives guidelines to determine the proper use levels by plant category (grasses, forbs, and shrubs) and by grazing season (spring, summer, fall, winter, yearlong). Proper use levels for all allotments are also implied by the Standards and Guidelines for Rangeland Health and Grazing Administration (February 1997).

Table 1.4 Utilization

Key Area	Key Species	Year	Utilization		Key Area	Key Species	Year	Utilization			
			Percentage	Class				Percentage	Class		
1	crested wheatgrass	1997	46	Moderate	6	winterfat	1997	38	Light		
		1999	40	Light			1998	54	Moderate		
		2002	70	Heavy			1999	58	Moderate		
		2003	78	Heavy			2000	44	Moderate		
		2009	52	Moderate			2001	42	Moderate		
2	crested wheatgrass	1993	20	slight			2002	60	Moderate		
		1999	56	Moderate			2004	52	Moderate		
		2000	56	Moderate			7	winterfat	1997	48	Moderate
		2002	88	Severe					1998	56	Moderate
		2004	48	Moderate					1999	62	Heavy
3	winterfat	1997	36	Light					2000	58	Moderate
		1998	45	Moderate	2001	50			Moderate		
		1999	66	Heavy	2002	60	Moderate				
		2000	50	Moderate	2004	54	Moderate				
		2001	48	Moderate	8	All Grasses	1998	16	slight		
2002	48	Moderate	1999	22			Light				
2004	78	Heavy	2000	22			Light				
4	winterfat	1997	48	Moderate			2002	26	Light		
		1997	36	Light			2004	10	slight		
		1998	38	Light	9	crested wheatgrass	1999	64	Heavy		
		1999	50	Moderate			2002	88	Severe		
		2000	46	Moderate			2003	90	Severe		
2001	56	Moderate	2009	70			Heavy				
2002	28	Light	10	crested wheatgrass			2000	62	Heavy		
2004	70	Heavy			2002	84	severe				
Indian ricegrass	Indian ricegrass	1997			54	Moderate	2004	46	Moderate		
		1998			68	Heavy	11	winterfat	1999	60	Moderate
		1999			66	Heavy			2002	48	Moderate
		2000	60	Moderate	2004	40			Moderate		
		2001	54	Moderate	2009	62			Heavy		
2002	50	Moderate	12	winterfat	1999	20			slight		
2004	46	Moderate			2002	20	slight				
5	winterfat	1997			44	Moderate	2004	34	Light		
		1998			34	Light	2009	0	No use		
		1999			62	Heavy	Indian ricegrass	2009	49	Moderate	
		2000	56	Moderate							
		2001	50	Moderate							
2002	66	Heavy									
2004	18	slight									

Figure 1. Use pattern map for the Steptoe Allotment 10/15/2009.



1.5. PHOTOGRAPHIC TREND

In reviewing photographs from 1996 to 2009, key area trends appeared stable for the majority of key areas. However for key areas 1, 9b (near key area 9 where photographs have been taken since 1996), and 11 a downward trend has occurred. Occurring within a crested wheatgrass seeding, key area 1 has increased in shrub production while decreasing in crested wheatgrass production. Also within this same seeding, crested wheatgrass has been lost to halogeton at key area 9b. Key area 11 has also succumbed to a halogeton invasion. Although a significant change has not occurred in the south Steptoe seeding, key areas 2 and 10 have increased in green rabbitbrush and Russian thistle production.

2. PROPER FUNCTIONING CONDITION

Proper Functioning Condition (PFC) was assessed for the springs and streams within the Steptoe allotment in 2009 (Table 2). PFC is the method used by the BLM to assess riparian health and functionality. The process is completed by an interdisciplinary (ID) team. The team looks at hydrology, vegetation, and erosion/deposition characteristics of the site in order to determine if the riparian area is in proper functioning condition, functioning at risk, or nonfunctional.

Table 2. Springs and Streams Proper Functioning Condition (PFC) ratings.

Name	ASPEN #	Rating	Notes:
Billy Pope Spring	563	PFC	
Mud Spring	564	PFC	
Water Canyon Spring/Stream	9735	PFC	
Water Canyon Stream (lower reach)	9736	PFC	
Unnamed Spring	572	--	Inaccessible to cattle
Unnamed Spring	9734	--	Inaccessible to cattle
Unnamed Reservoir	558	--	Dry
Unnamed Spring	557	--	Dry
Duck Creek Slough	N/A	--	Undue anthropogenic influence

-- Was not assessed

3. LICENSED LIVESTOCK USE

Licensed use from 2001-2009 varied on the Steptoe allotment with the largest licensed use occurring in 2006 when 81.5% of actual use of the permitted use occurred (Table 3.1). During this same period, the Dry Canyon pasture has been licensed with the most use at 98.9% and the North Steptoe seeding pasture with the least licensed use at 31% (Table 3.2).

Table 3.1 Actual Animal Unit Months (AUM) licenced between 2001-2009.

<u>Year</u>	<u>Licensed Use</u>	<u>AUMs on permit</u>	<u>% actual use of permitted use</u>
2001	1183	2836	41.7%
2002	1644	2836	58.0%
2003	2020	2836	71.2%
2004	1036	2836	36.5%
2005	1731	2836	61.0%
2006	2310	2836	81.5%
2007	1999	2836	70.5%
2008	1330	2836	46.9%
2009	496	2836	17.5%

Table 3.2 Actual Animal Unit Months (AUM) licenced between 2001-2009 by pasture.

<u>Pasture</u>	<u>% actual use of permitted use</u>
DRY CANYON	98.9%
DUCKCREEK FLAT	74.5%
EGAN BENCH	57.3%
NORTH STEPTOE SEEDNG	31.0%
SHEP FIELD	46.4%
SOUTH STEPTOE SEEDNG	52.0%
NORTH SLOUGH	52.0%

4. PRECIPITATION DATA

Annual precipitation greatly influences growing condition of forage species and is often correlated to available forage. Historical climate data from the Western Regional Climate Center at the McGill, Nevada weather station is being used as to represent the annual precipitation on the Steptoe Allotment. Table 4.1 and Graph 4.1 summarize annual precipitation data collected since 1978. Since 2001, precipitation has been below the 30 year average seven of the past nine years.

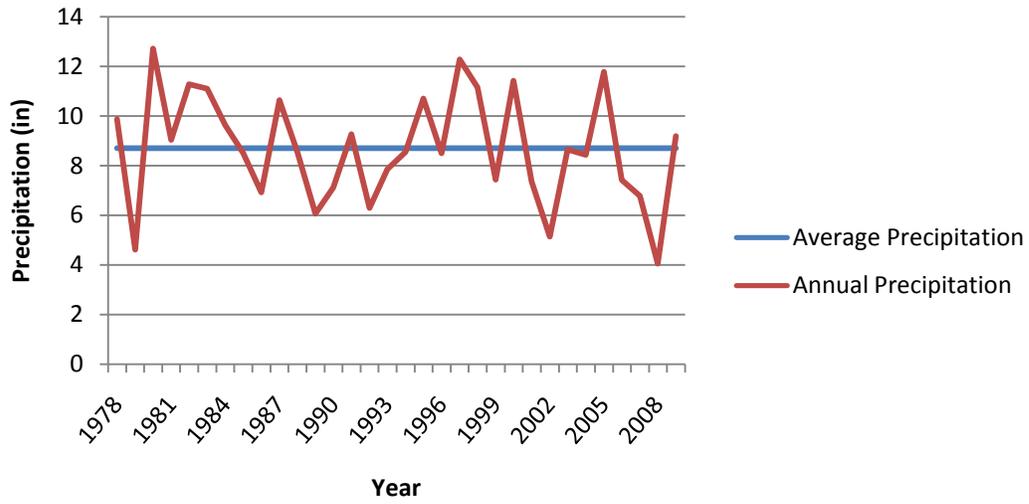
Table 4.1. Western Regional Climate Center Precipitation Data from McGill, NV (1978 - 2009)

<u>Year</u>	<u>Annual Precipitation (inches)</u>	<u>Year</u>	<u>Annual Precipitation (inches)</u>	<u>Year</u>	<u>Annual Precipitation (inches)</u>
1978	9.87	1989	6.06	2000	11.43
1979	4.61	1990	7.12	2001	7.36
1980	12.72	1991	9.27	2002	5.14
1981	9.04	1992	6.3	2003	8.66
1982	11.28	1993	7.86	2004	8.43
1983	11.11	1994	8.55	2005	11.78
1984	9.63	1995	10.7	2006	7.42
1985	8.51	1996	8.5	2007	6.78
1986	6.92	1997	12.28	2008	4.05
1987	10.64	1998	11.15	*2009	9.19
1988	8.57	1999	7.43		

*January - August

Average = 8.7; Min = 4.05; Max = 12.72

Figure 2. Western Regional Climate Center Precipitation Data from McGill, NV (1978 - 2009)



APPENDIX II
MAPS

Figure 2. Western Regional Climate Center Precipitation Data from McGill, NV (1978 - 2009)

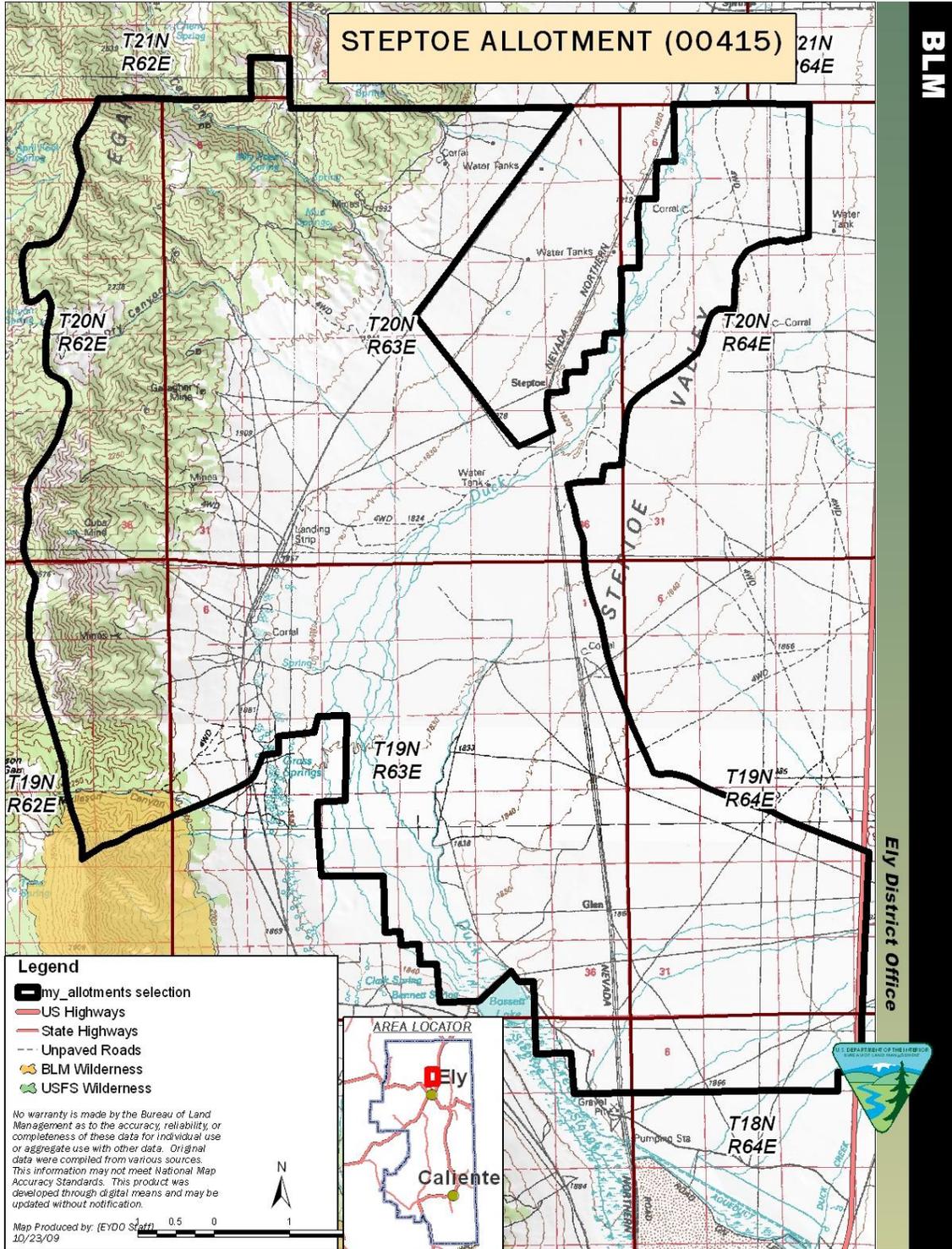


Figure 2. Steptoe Allotment Key Areas

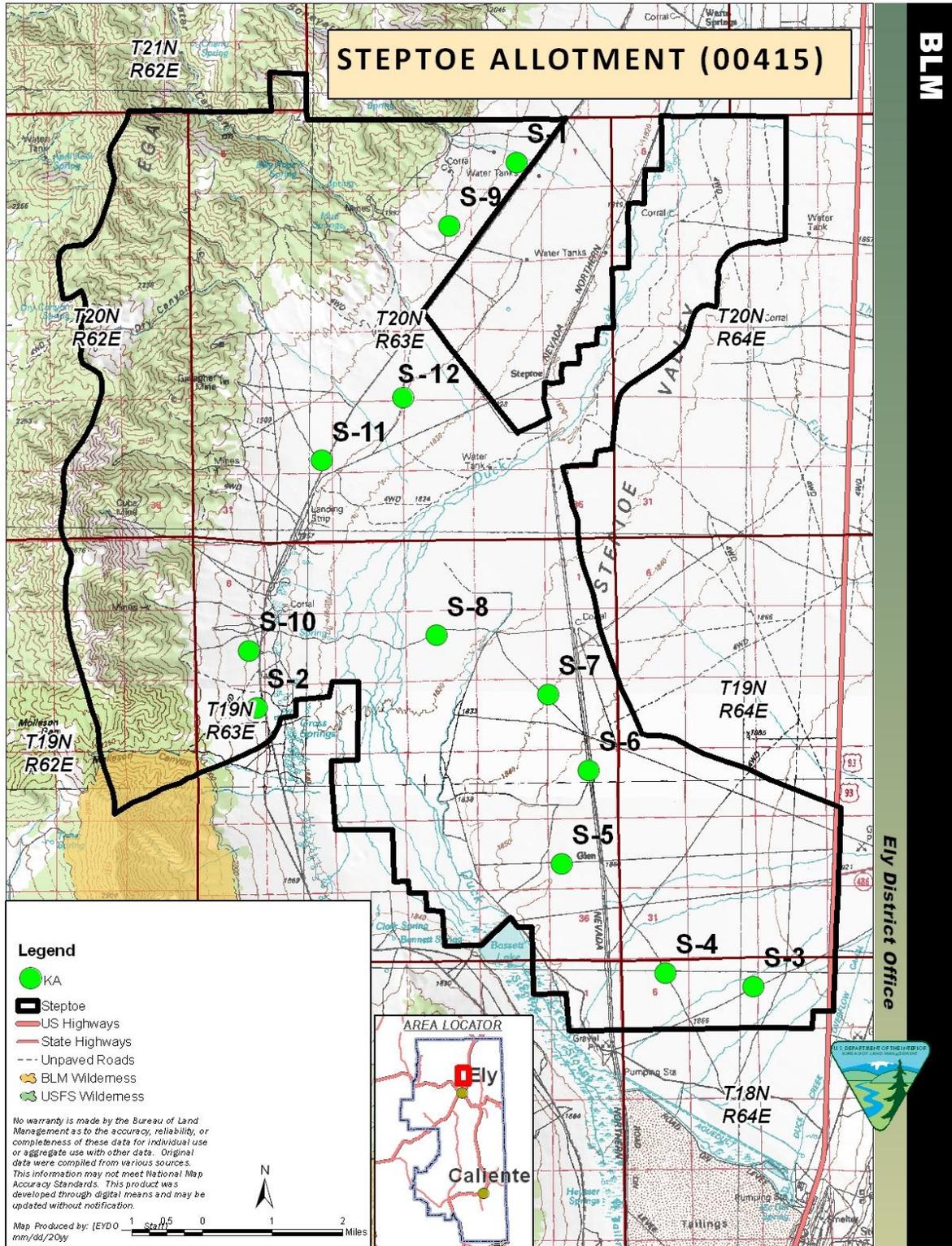


Figure 3. Steptoe Allotment Spring Sources

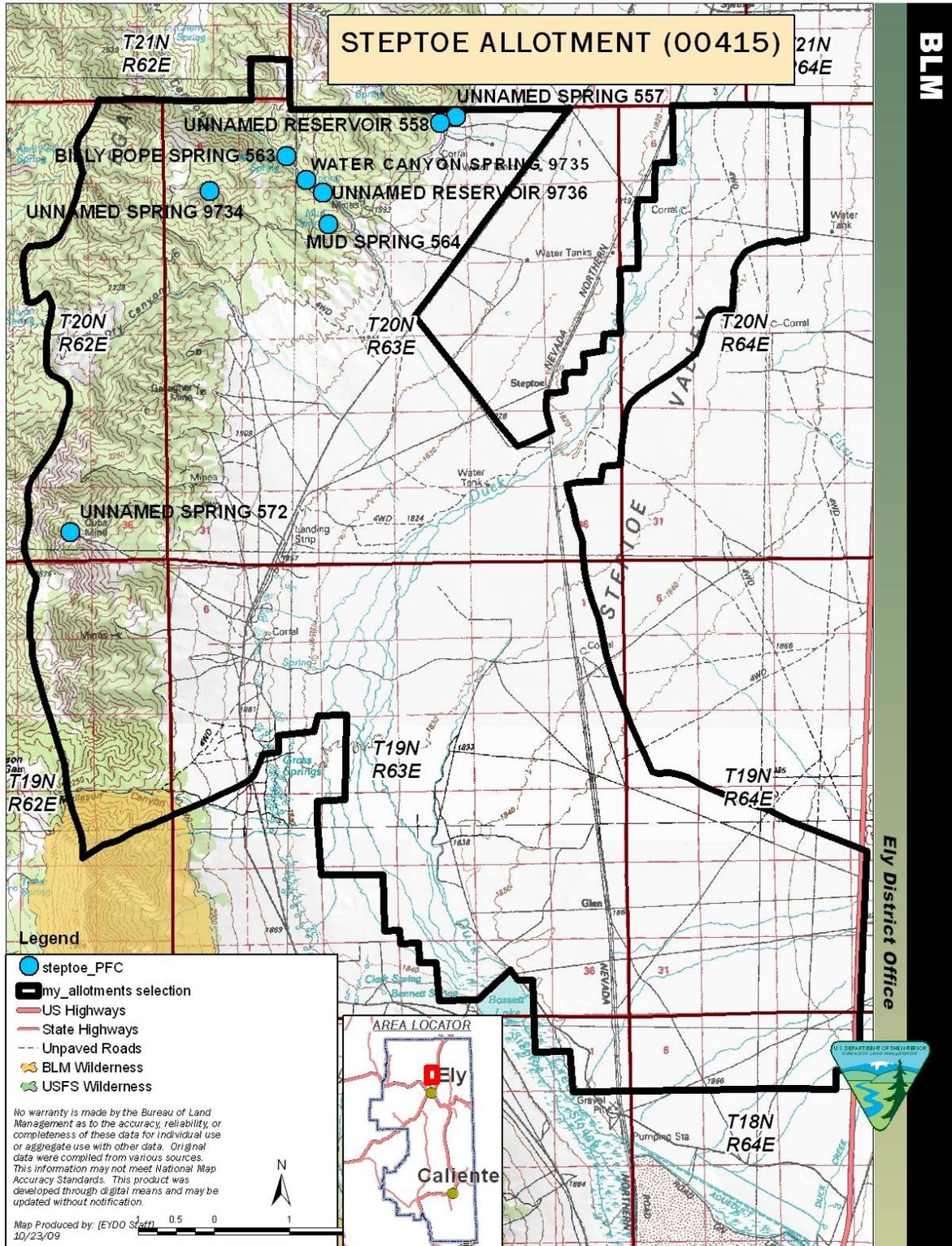
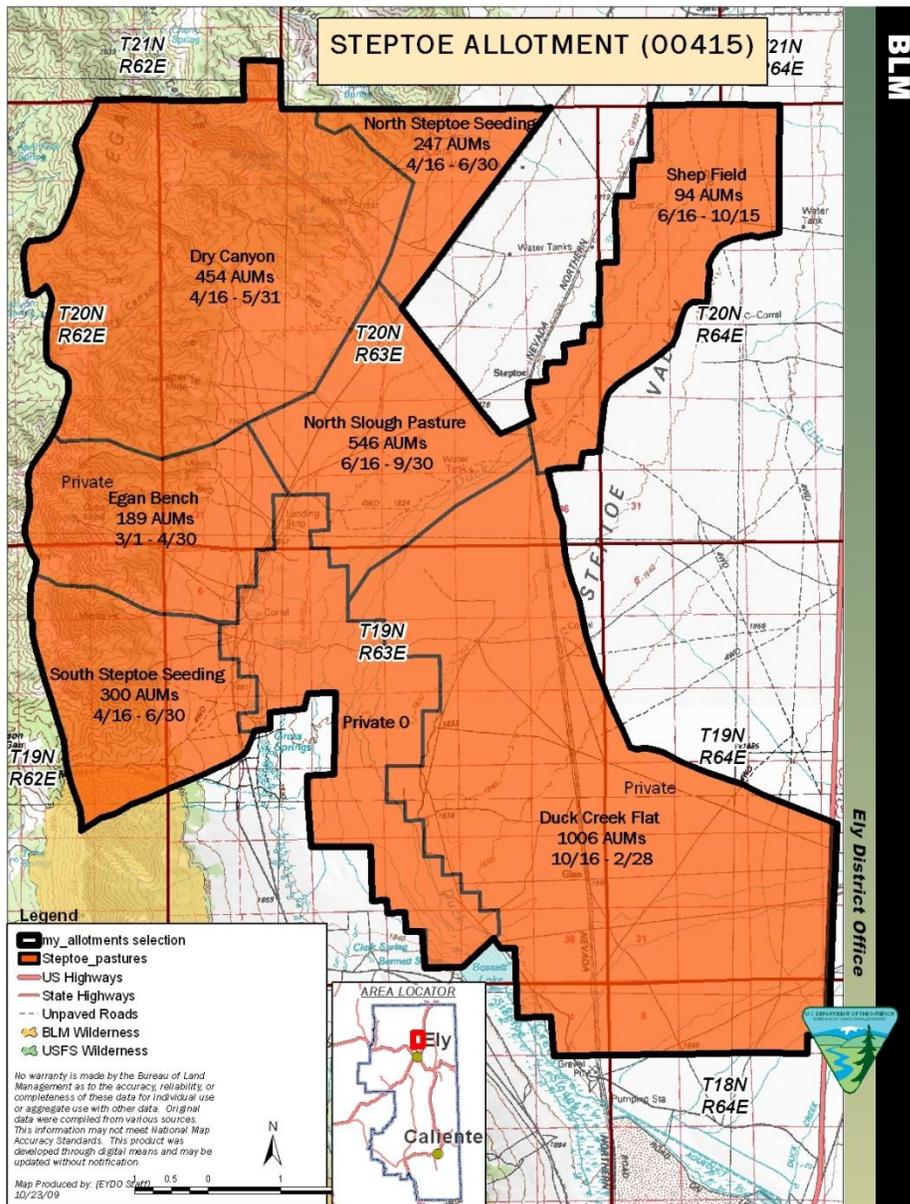


Figure 4. Steptoe allotment pastures, number of Animal Unit Months (AUMs), and Use dates for authorization # 2704459 permit from 6/23/2000 to 6/23/2010.

Pasture	Livestock #	Kind	Grazing Begin	Grazing End	% Public Land	AUM's
Egan Bench	94	Cattle	3/1	4/30	100	189
Dry Canyon	300	Cattle	4/16	5/31	100	454
South Steptoe seeding	120	Cattle	4/16	6/30	100	300
North Steptoe seeding	99	Cattle	4/16	6/30	100	247
North Slough	361	Cattle	6/16	9/30	43	546
Shep Field	470	Cattle	6/15	10/15	5	94
Duck Creek Flat	225	Cattle	10/16	2/28	100	1006



**APPENDIX III
TERMS AND CONDITIONS ON CURRENT PERMIT**

<u>Pasture</u>	<u>Livestock #</u>	<u>Kind</u>	<u>Grazing Begin</u>	<u>Grazing End</u>	<u>% Public Land</u>	<u>AUM's</u>
Egan Bench	94	Cattle	3/1	4/30	100	189
Dry Canyon	300	Cattle	4/16	5/31	100	454
South Steptoe seeding	120	Cattle	4/16	6/30	100	300
North Steptoe seeding	99	Cattle	4/16	6/30	100	247
North Slough	361	Cattle	6/16	9/30	43	546
Shep Field	470	Cattle	6/15	10/15	5	94
Duck Creek Flat	225	Cattle	10/16	2/28	100	1006

**APPENDIX IV
RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS
Term Grazing Permit Renewal for #2704459
Steptoe Allotment
White Pine County, Nevada**

On February 17, 2010 a Noxious & Invasive Weed Risk Assessment was completed for term grazing permit renewal for #2704459 on the Steptoe Allotment in White Pine County, NV. The Bureau of Land Management (BLM) Egan Field Office proposes to fully process and issue a term grazing permit. The permit will remain a cattle permit with a total grazing preference of 4,525 AUMs from March 1 to February 28. Of these 4,525 AUMs, 2,836 AUMs will remain active and 1,689 AUMs will remain suspended nonuse. The season of use will continue to be from 3/1 to 2/28. The proposed action is to issue the permit with changes to the current terms and conditions including voluntary nonuse in the North Steptoe Seeding. New allowable use levels (utilization levels) for key forage species are proposed along with new terms and conditions related to weed management. The proposed action also requires that stipulations identified in this Weed Risk Assessment be followed.

Mandatory Terms and Conditions (proposed for new permit).

<u>Pasture</u>	<u>Livestock #</u>	<u>Kind</u>	<u>Grazing Begin</u>	<u>Grazing End</u>	<u>% Public Land</u>	<u>AUM's</u>
Egan Bench	15	Cattle	3/1	2/28	100	189
Dry Canyon	37	Cattle	3/1	2/28	100	454
South Steptoe seeding	25	Cattle	3/1	2/28	100	300
North Steptoe seeding	10	Cattle	3/1	2/28	100	247
North Slough	48	Cattle	3/1	2/28	94	546
Shep Field	470	Cattle	6/15	10/15	5	94
Duck Creek Flat	225	Cattle	10/16	2/28	100	1006

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 this allotment:

<i>Cirsium vulgare</i>	Bull thistle
<i>Carduus nutans</i>	Musk thistle
<i>Lepidium draba</i>	Hoary cress
<i>Cirsium arvense</i>	Canada thistle

The following species are found along roads and drainages leading to the allotment:

<i>Acroptilon repens</i>	Russian knapweed
<i>Centaurea stoebe</i>	Spotted knapweed
<i>Cirsium vulgare</i>	Bull thistle
<i>Lepidium draba</i>	Hoary cress
<i>Lepidium latifolium</i>	Tall whitetop
<i>Onopordum acanthium</i>	Scotch thistle
<i>Tamarix spp.</i>	Salt cedar

Monitoring data collected by range staff has documented the following non-native invasive weeds along main county roads, some two track roads and in native range of the permitted area: cheatgrass (*Bromus tectorum*), and halogeton (*Halogeton glomeratus*).

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. Grazing can increase the populations of the noxious and invasive weeds already within the permitted areas and could aid in the introduction of weeds from surrounding areas. However the design features of the proposed action will help to prevent weeds from establishing or spreading.

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 Moderate (5) at the present time. If new weed infestations establish within the permitted areas this could have an adverse impact those native plant communities however, the proposed action includes measures to increase native plants and to help prevent weeds from establishing. An increase of cheatgrass could alter the fire regime in the area. Also salt from the soil accumulates in the halogeton plant tissues and leaches from dead plants and roots back onto the soil surface increasing salinity and favoring establishment of halogeton over other species. Soil nutrient levels change significantly under halogeton cover.

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 (20). This indicates that the project can proceed as planned as long as the following measures are followed:

- 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.
- 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.
- 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.
- 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.
- 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: /s/Mindy Seal

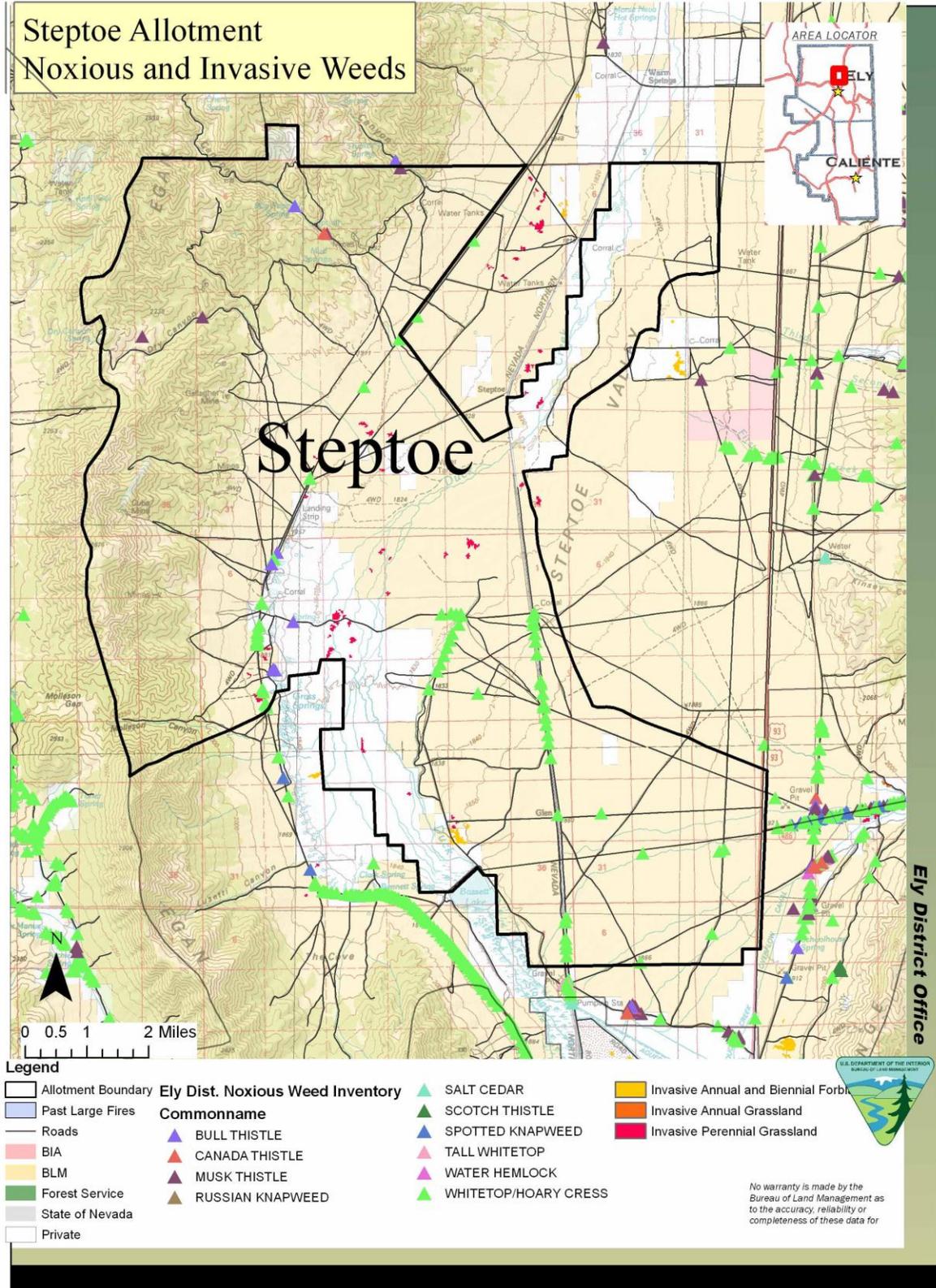
Mindy Seal
Natural Resource Specialist

2/17/2010

Date

Steptoe Allotment Noxious and Invasive Weeds

BLM



Allotment Boundary	Ely Dist. Noxious Weed Inventory	SALT CEDAR	Invasive Annual and Biennial Forb
Past Large Fires	Commonname	SCOTCH THISTLE	Invasive Annual Grassland
Roads	BULL THISTLE	SPOTTED Knapweed	Invasive Perennial Grassland
BIA	CANADA THISTLE	TALL WHITETOP	
BLM	MUSK THISTLE	WATER HEMLOCK	
Forest Service	RUSSIAN Knapweed	WHITETOP/HOARY CRESS	
State of Nevada			
Private			

No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for

APPENDIX III Special Status Species

1) species listed or proposed for listing under the Endangered Species Act (ESA), and 2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species.

APPENDIX IV

The following data reflect survey blocks and/or incidental sightings of bird species near the allotment boundaries from the Atlas of the Breeding Birds of Nevada (Floyd et al. 2007). These data represent birds that were confirmed, probably, or possibly breeding within the allotment boundaries. These data are not comprehensive, and additional species not listed here may be present within the allotment boundary.

Works Cited

Floyd T, Elphick CS, Chisholm G, Mack K, Elston RG, Ammon EM, and Boone JD. 2007. Atlas of the Breeding Birds of Nevada. Reno: University of Nevada Press.

Steptoe Allotment

Common Name

*Brewer's sparrow (*Spizella breweri*)

*sage sparrow (*Amphispiza belli*)

American coot (*Fulica americana*)

American kestrel (*Falco sparverius*)

barn swallow (*Hirundo rustica*)

black-necked stilt (*Himantopus mexicanus*)

Brewer's blackbird (*Euphagus cyanocephalus*)

chipping sparrow (*Spizella passerina*)

cinnamon teal (*Anas cyanoptera*)

common nighthawk (*Chordeiles minor*)

common raven (*Corvus corax*)

common yellowthroat (*Geothlypis trichas*)

ferruginous hawk (*Buteo regalis*)

gadwall (*Anas strepera*)

horned lark (*Eremophila alpestris*)

killdeer (*Charadrius vociferus*)

long-billed curlew (*Numenius americanus*)

mallard (*Anas platyrhynchos*)

marsh wren (*Cistothorus palustris*)

mourning dove (*Zenaida macroura*)

northern harrier (*Circus cyaneus*)

northern pintail (*Anas acuta*)

northern rough-winged swallow

redhead (*Aythya americana*)

red-winged blackbird (*Agelaius phoeniceus*)

sage thrasher (*Oreoscoptes montanus*)

Savannah sparrow (*Passerculus sandwichensis*)
song sparrow (*Melospiza melodia*)
tree sparrow (*Spizella arborea*)
turkey vulture (*Cathartes aura*)
vesper sparrow (*Pooecetes gramineus*)
western meadowlark (*Sturnella neglecta*)
yellow-headed blackbird (*Xanthocephalus xanthocephalus*)
* = Sensitive or Species of Concern