United States Department of the Interic

BUREAU OF LAND MANAGEMENT
Egan Field Office
HC33 Box 33500 (702 N. Industrial Way)
Ely, Nevada 89301-9408
http://www.blm.gov/nv/st/en/fo/ely_field_office.html

In Reply Refer to:
4130 (NVL0100) JUL 20 2009

Dear Interested Public:

The Bureau of Land Management (BLM) Egan Field Office and Caliente Field Office have completed a Preliminary Environmental Assessment (EA) for John Uhalde & Co. (#2704736) term grazing permit renewal for the Batterman Wash Allotment (11018), Black Bluff Allotment (10122), Murphy Gap Allotment (10110), South Coal Valley Allotment (10120), West Timber Mountain Allotment (11020), Worthington Mountain Allotment (11021) and the White River Trail (11005). The Standards Determination Documents (SDD) for Batterman Wash Allotment, West Timber Mountain Allotment, Worthington Mountain Allotment, Murphy Gap Allotment and the White River Trail are also ready for public review and are attached to the EA. This EA and SDDs are being sent to you for solicitation of your comments and input.

The SDD for Black Bluff Allotment and South Coal Valley Allotment was reviewed by a BLM interdisciplinary team and sent to interested public for preliminary review in 2008. No comments were received from the public specific to this document. Following the scoping of the SDD for Black Bluff Allotment and South Coal Valley Allotment the Authorized Officer concurred with this determination on August 14, 2008. This is provided with this EA for reference purposes only.

You are receiving this letter because you expressed interest in grazing management actions on one or more of these allotments in your reply to the Ely BLM District 2009 Annual Consultation, Cooperation, and Coordination letter.

The proposed action of the EA is to fully process and renew the grazing permits for John Uhalde & Co. (#2704736) and authorize grazing on the Batterman Wash Allotment, Black Bluff Allotment, Murphy Gap Allotment, South Coal Valley Allotment, West Timber Mountain Allotment, Worthington Mountain Allotment and the White River Trail. Changes to the permits are recommended.

Monitoring data was reviewed and assessments of the rangeland health of each allotment were completed in 2008-2009 during the term permit renewal process through Standards Determination Documents. The SDDs evaluate and assess livestock grazing management's achievement of the Standards and conformance with the Guidelines. The issuance of a new permit could be for a period up to ten years.

Please review the Preliminary EA and Batterman Wash Allotment, West Timber Mountain Allotment, Worthington Mountain Allotment, Murphy Gap Allotment and the White River Trail SDDs and provide written comments **by August 3, 2009.** Please address all comments to:

Mindy Seal, Natural Resource Specialist
Bureau of Land Management
HC 33, Box 33500
Ely, Nevada 89301

Please note, before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment including your personal identifying information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Thank you for your cooperation. If you have any questions about this project, please contact Mindy Seal, Natural Resource Specialist at (775) 289-1944.

Sincerely,

/s/Jeffrey A. Weeks
Jeffrey A. Weeks
Field Manager
Egan Field Office

Enclosure (1):
Preliminary EA and SDDs

cc: Interested Publics Mailing List (Name Only)
Nevada Department of Wildlife, Steve Foree
Western Watersheds Project, Katie Fite
Steven Carter
Sustainable Grazing Coalition, Richard Orr
Eastern Nevada Landscape Coalition, Betsy Macfarlan
Nevada Department of Wildlife, D Bradford Hardenbrook
Joe McGloin
Thomas Rosevear
Double U Livestock, L.L.C. Wade West
Carl Slaqowski
Blue Diamond Oil Corporation
Carter Cattle Co.
Higbee Brothers
Higbee, Varlin S.
Bruce & Pamela Jensen

Denny Larson
Vaughn M. Higbee
Charles & Clayton Wadsworth
Nevada State Clearinghouse (electronic copy only)

BLM

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

Environmental Assessment
DOI-BLM-NV-L010-2009-0033EA
July 17, 2009

John Uhalde & Co. Term Grazing Permit Renewal For the Batterman Wash, Black Bluff, Murphy Gap, South Coal Valley, West Timber Mountain, and Worthington Mountain Allotments and the White River Trail

Location: ***Nye and Lincoln Counties, NV***

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

NATIONAL SYSTEM OF PUBLIC LANDS

Table of Contents

1.0 Introduction: Need for Action

This document identifies issues, analyzes alternatives, and discloses the potential environmental impacts associated with the proposed term grazing permit renewal for John Uhalde & Co. (#2704736) for the Batterman Wash Allotment (11018), Black Bluff Allotment (10122), Murphy Gap Allotment (10110), South Coal Valley Allotment (10120), West Timber Mountain Allotment (11020), Worthington Mountain Allotment (11021) and the White River Trail (11005). These allotments are found in northeastern Nye, and northwestern Lincoln Counties (see Figure 1, Appendix I).

1.0.1 Background

Current management practices have been implemented since the Final Multiple Use Decisions were issued:

- Allotments Located within the Seaman Herd Management Evaluation Area" (Seaman FMUD) on October 18, 1996
- Final Multiple Use Decision (FMUD) for the Batterman Wash Allotment on July 13, 1990

John Uhalde & Co. uses this grazing permit as part of their southern operation for (winter) grazing from late fall to early spring for both sheep and cattle. The permittee trails sheep south in the fall and moves sheep into Batterman Wash Allotment. The permittee uses all of the allotments for sheep grazing and rotates use through herding. The permittee can trail north in the spring using the same trail, but sometimes transports the sheep herd to their northern allotments by truck. The permittee transports their cattle herd south by truck and rotates use on Batterman Wash Allotment and Worthington Mountain Allotment using water to control and rotate use. In the spring cattle are transported back to the northern allotments by truck.

The term "southern permit" is used only as a reference to help clarify which term permit is being renewed with regard to this permittee. Since this permittee also holds a separate grazing permit for allotments in the northern portion of the Ely BLM District, the southern permit is only grazed from late fall to mid spring. The term "southern permit(s)" will not be included on the actual permit, since the permit numbers identify this differentiation.

1.1 Introduction of the Proposed Action.

The Bureau of Land Management (BLM), Caliente and Egan Field Offices propose to issue and fully process a term grazing permit for John Uhalde & Co. (#2704736) and authorize grazing on the Batterman Wash Allotment (11018), Black Bluff Allotment (10122), Murphy Gap Allotment (10110), South Coal Valley Allotment (10120), West Timber Mountain Allotment (11020), Worthington Mountain Allotment (11021) and the White River Trail (11005).

Monitoring data were reviewed and assessments of the rangeland health of each allotment were completed in 2008-2009 during the term permit renewal process through Standards Determination Documents (SDD; see Appendix B-E). The following is a summary of the SDD by allotment for achievement of the standards.

ALLOTMENT	STANDARD 1	STANDARD 2	STANDARD 3
MOJAVE-SOUTHERN GREAT BASIN STANDARDS			
Allotment	**Soils**	**Ecosystem Components**	**Habitat and Biota**
Batterman Wash (11018)	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.
Black Bluff (10122)	Not achieving the Standard, but making significant progress; Sheep grazing is not a significant contributing factor	Not achieving the Standard, not making significant progress; Sheep grazing is not a significant contributing factor	Not achieving the Standard, but making significant progress; Sheep grazing is not a significant contributing factor
Murphy Gap (10110)	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.
South Coal Valley (10120)	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.
West Timber Mountain (11020)	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, not making significant progress towards; Livestock are not a significant contributing factor.
Worthington Mountain (11021)	Standard achieved	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.	Not achieving the Standard, but making significant progress towards; Livestock are not a significant contributing factor.
White River Trail (11005)	Standard achieved	Not achieving the Standard, not making significant progress; Livestock are not a significant	Not achieving the Standard, not making significant progress; Livestock are not a significant

		contributing factor.	contributing factor
Definitions per the BLM Manual H-4180-1 – Rangeland Health Standards (1/19/01) **Significant Progress:** Movement toward meeting standards and conforming to guidelines that is acceptable in terms of rate and magnitude. Acceptable levels of rate and magnitude must be realistic in terms of the capability of the resource, but must also be as expeditious and effective as practical. **Significant Factor:** Principal causal factor in the failure to achieve the land health standard(s) and conform with the guidelines. A significant factor would typically be a use that, if modified, would enable an area to achieve or make significant progress toward achieving the land health standard(s). To be a significant factor, a use may be one of several causal factors contributing to less-than-healthy conditions; it need not be the sole causal factor inhibiting progress towards the standards.			

1.2 Need for the Proposed Action.

The need for the proposal is to provide for legitimate multiple uses of the public lands by renewing the term grazing permit for John Uhalde & Co. with new terms and conditions for grazing use that conform to guidelines and achieve standards for Nevada's Mojave-Southern 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 John Uhalde & Co. and authorize grazing in accordance with applicable laws, regulations, and land use plans (LUP) on approximately 266,316 acres of public land.

1.3.2. To improve vegetative health and growth conditions on the allotments and continue to meet or make progress towards achieving the Standards and Guidelines for rangeland health as approved and published by Nevada's Mojave-Southern Great Basin RAC.

1.4 Relationship to Planning

Land Use Plan Name: Ely District Record of Decision and Approved Resource Management Plan

Date Approved: August 20, 2008

Grazing Allotments Included: Batterman Wash, Black Bluff, Murphy Gap, South Coal Valley, West Timber Mountain, Worthington Mountain, and the White River Trail

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)."

This land use plan specifically provided for in the following Management Decisions:

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

LG-5—Maintain the current 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.

- Lincoln County Portion (Lincoln/White Pine Planning Area) Sage Grouse Conservation Plan (2004).
- State Protocol Agreement between the Bureau of Land Management (BLM), Nevada and the Nevada State Historic Preservation Office (1999)
- Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (12 February 1997).
- Lincoln County Elk Management Plan – Revised 2006
- White Pine County Elk Management Plan – Revised 2007
- Endangered Species Act - 1973
- Wilderness Act - 1964
- Migratory Bird Treaty Act (1918 as amended) and Executive Order (1/11/01).
- Lincoln County Public Land and Natural Resource Management Plan (1997)

  "Grazing shall be managed to support a healthy range resource." (P. 15)

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 John Uhalde & Co. term permit renewal proposal was internally scoped by the Caliente Field Office ID Team/Resource Specialists on January 13, 2009 and by the Egan Field Office ID Team/Resource Specialists on January 20, 2009 to identify any relevant issues. Relevant issues initially identified at those meetings were noxious and invasive weeds, Desert bighorn sheep habitat, and special status species. In section 3.2 (Resources/Concerns Considered for Analysis) specialists considered these for further analysis, along with other resources and concerns.

A letter notifying John Uhalde & Co. of the term permit renewal was sent on January 15, 2009. No Comments were received.

On November 19, 2008, a letter was sent to local tribes requesting comments by December 22, 2008. No comments were received regarding these permit renewals.

On December 2, 2008, 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 January 23, 2009. No Comments received from participants on the Wilderness mailing list.

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 John Uhalde & Co. (2704736) and authorize grazing on the Batterman Wash, Black Bluff, Murphy Gap, South Coal Valley, West Timber Mountain, Worthington Mountain, and the White River Trail (Figure 1, Appendix A).

One substantial change would be made to this grazing permit. The permittee has request dual use (cattle and sheep) for the West Timber Mountain Allotment. Currently the permittee's permit allows sheep use only in the West Timber Mountain Allotment. The change to dual use would allow greater flexibility in their operation. The sheep grazing period of for John Uhalde & Co. is 12/15-04/15, for dual use the period of use for sheep grazing would remain the same, but the period of use for cattle grazing would be 09/01-03/31. The conversion of sheep AUMs to cattle AUMs was determined after an analysis of soil map units from the Soil Survey of Lincoln County, Nevada, North Part; and the Soil Survey of Nye County, Nevada, Northeast Part to corresponding ecological range sites, forage production, and ecological condition data collected on the allotment. AUMs available for cattle would be 495 AUMs based on this analysis. (See Appendix B, Section 3)

Dual use in the Murphy Gap Allotment would also be authorized with this permit renewal. This is not a change to the permit, since the Final Multiple Use Decision (FMUD) issued on October 18, 1996 for those "Allotments Located within the Seaman Herd Management Evaluation Area" (Seaman FMUD), including Murphy Gap Allotment, approved this dual use. However, dual use would be contingent on construction of an allotment boundary fence between Murphy Gap Allotment and South Coal Valley Allotment. Until the fence is constructed, this permittee would continue to only grazing sheep in this allotment. Also per the Seaman FMUD, once dual use is permitted "initial stocking levels for cattle will be evaluated at a later date to determine the amount of cattle AUMs available on a sustained yield basis. Water will need to be made available at designated locations, based on distribution patterns once cattle are placed on the allotment." Sheep period of for John Uhalde & Co. is 12/15-04/15, for dual use the period of use for sheep grazing would remain the same, but the period of use for cattle grazing would be 09/01-03/31.

No substantial changes would be made based on rangeland health analysis. Batterman Wash, Murphy Gap, South Coal Valley, West Timber Mountain, and Worthington Mountain allotments are meeting or progressing towards the Standards and Guidelines and livestock grazing was not identified as a significant contributing factor in not meeting the Standards. For the Black Bluff Allotment it was determined that Standard 2 (Ecosystem Components) and Standard 3 (Habitat and Biota) were not achieving the Standard, and not making significant progress toward the standards. It was also determined that livestock grazing was a significant contributing factor. John Uhalde & Co. grazes sheep on this allotment. Sheep are not considered to be a significant contributing factor since sheep have not grazed this allotment for the past ten years and the season of use for sheep is December 1st to April 15th. For the White River Trail it was also determined that Standard 2 (Ecosystem Components) and Standard 3 (Habitat and Biota) were not achieving the Standard, and not making significant progress toward the standards. It was determined that livestock grazing was not a significant contributing factor.

2.1.1 Current permit

Table 1.Current Grazing Permit for John Uhalde & Co. (2704736)

Allotment Name and Number	Livestock Number/Kind	Grazing Period Begin End	% Public Land*	Type Use	AUMs**
West Timber Mountain 11020	822 Sheep	12/01 to 04/15	100	Active	736
South Coal Valley 10120	1517 Sheep	12/01 to 04/15	100	Active	1357
Black Bluff 10122	293 Sheep	12/01 to 04/15	100	Active	262
Murphy Gap 10110	735 Sheep	12/01 to 04/15	100	Active	657
Batterman Wash 11018	887 Sheep	12/01 to 04/15	100	Active	793
	243 Cattle	11/15 to 03/31	100	Active	1095
	80 Cattle	04/01 to 06/15	100	Active	200
White River Trail 11005	4800 Sheep	11/22 to 11/30	100	Active	284
	4800 Sheep	04/04 to 04/13	100	Active	316
Worthington Mountain 11021	3200 Sheep	12/15 to 04/10	100	Active	2462
	695 Cattle	01/13 to 05/31	100	Active	3176

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

Allotment AUMs Summary

Allotment Name	ACTIVE AUMS	SUSPENDED AUMS	GRAZING PERMITTED USE
West Timber Mountain	735	0	735
South Coal Valley	1357	0	1357
Black Bluff	262	0	262
Murphy Gap	657	0	657
Batterman Wash	2093	0	2093
White River Trail	600	0	600
Worthington Mountain	5641	0	5641

2.1.2 Proposed term permits

The renewal of the term grazing permits 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. If this term permit is renewed 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 John Uhalde & Co.** and terms and conditions are as follows:

Table 2.Proposed Grazing Permit for John Uhalde & Co. (2704736)

Allotment Name and Number	Livestock Number/Kind	Grazing Period Begin End	% Public Land*	Type Use	AUMs**
West Timber Mountain 11020*** Sheep Use Only	822 Sheep	12/01 to 04/15	100	Active	736
West Timber Mountain 11020*** Dual Use Only	265 Sheep	12/01 to 04/15	100	Active	240
	110 Cattle	11/15 to 03/31	100	Active	495
South Coal Valley 10120	1517 Sheep	12/01 to 04/15	100	Active	1357
Black Bluff 10122	293 Sheep	12/01 to 04/15	100	Active	262
Murphy Gap 10110*** Sheep Use Only	735 Sheep	12/15 to 04/15	100	Active	657
Murphy Gap 10110*** Dual Use Only	555 Sheep	12/15 to 04/15	100	Active	445
	30 Cattle	09/01 to 03/31	100	Active	210
Batterman Wash 11018	887 Sheep	12/01 to 04/15	100	Active	793
	243 Cattle	11/15 to 03/31	100	Active	1095
	80 Cattle	04/01 to 06/15	100	Active	200
White River Trail 11005	4800 Sheep	11/22 to 11/30	100	Active	284
	4800 Sheep	04/04 to 04/13	100	Active	316
Worthington Mountain 11021	3200 Sheep	12/15 to 04/10	100	Active	2462
	695 Cattle	01/13 to 05/31	100	Active	3176

*% Public Land is the percent of public land for billing purposes.
**AUMs may differ from Active Permitted Use due to a rounding difference with the number of livestock and the period of use.
*** Dual use (sheep/cattle) allowed, see terms and conditions for details.

Allotment AUMs Summary

Allotment Name	ACTIVE AUMS	SUSPENDED AUMS	GRAZING PERMITTED USE
West Timber Mountain	735	0	735
South Coal Valley	1357	0	1357
Black Bluff	262	0	262

Murphy Gap	657	0	657
Batterman Wash	2093	0	2093
White River Trail	600	0	600
Worthington Mountain	5641	0	5641

Terms and Conditions

1. Dual use would be allowed for Murphy Gap and West Timber Mountain Allotments in coordination with the authorized officer. Additional monitoring, as determined by the authorized officer, would be required when dual use is allowed.
2. Until the fence is constructed, this permittee would continue to only grazing sheep in the Murphy Gap Allotment. Also per the Seaman FMUD, once dual use is permitted in the Murphy Gap Allotment "initial stocking levels for cattle will be evaluated at a later date to determine the amount of cattle AUMs available on a sustained yield basis."
3. Maintain maximum allowable use levels set in the Seaman FMUD and Batterman Wash FMUD and establish maximum allowable use levels if they have not previously been set or need to be adjusted. Unless otherwise stated all utilization is on current year's growth.

Allotment	Perennial grasses	Perennial shrubs and half shrubs
Batterman Wash	55%	45%
Black Bluff	30% (by 5/31); 55%	45%
Murphy Gap*	30% (by 5/31); 55%	45%
South Coal Valley	30% (by 5/31); 55%	45%
West Timber Mountain**	30% (by 5/31); 55%	45%
White River Trail*	30% (by 5/31); 55%	45%
Worthington Mountain*	30% (by 5/31); 55%	45%
*Maximum allowable use levels not previously set. ** Maximum allowable use level adjusted.		

These perennial grasses use levels are necessary to continue to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

These perennial shrubs and half-shrubs use levels are necessary to continue to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

4. **Livestock would be moved to another authorized pasture or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives. Any deviation in livestock movement would require authorization from the authorized officer**

5. Salt and/or mineral supplements for livestock should be located no closer than ½ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock.

6. Herding of sheep is required when they are authorized on the allotments.

Other terms and conditions carried forward from the Final Multiple Use Decisions previously issued:

Grazing use on the West Timber Mountain, South Coal Valley, Black Bluff, Murphy Gap, Worthington Mountain and White River Trail Allotments shall be in accordance with the Final Multiple Use Decision Dated October 18, 1996. The applicable terms and conditions from that decision for this permit are listed below:

1. The permittee will haul water to designated locations during the time their livestock are on the allotments. Permanent storage tanks with troughs may be installed at these sites at the discretion of the authorized officer.

2. Sheep use during the spring will be rotated between West Timber Mountain, South Coal Valley, Murphy Gap, and Worthington Mountain Allotments so that lambing does not occur on any one allotment more than one year out of three. (Please note that West Timber Mountain Allotment may be removed from this rotation due to a change in species and operational needs of the permittee, this still incorporates three allotments as part of the rotation).
3.

Grazing use for the Batterman Wash Allotment shall be in accordance with the Final Multiple Use Decision dated July 13, 1990 and as illustrated in Map 1 of this decision (See Figure 1, Map 1 from Batterman Wash FMUD).

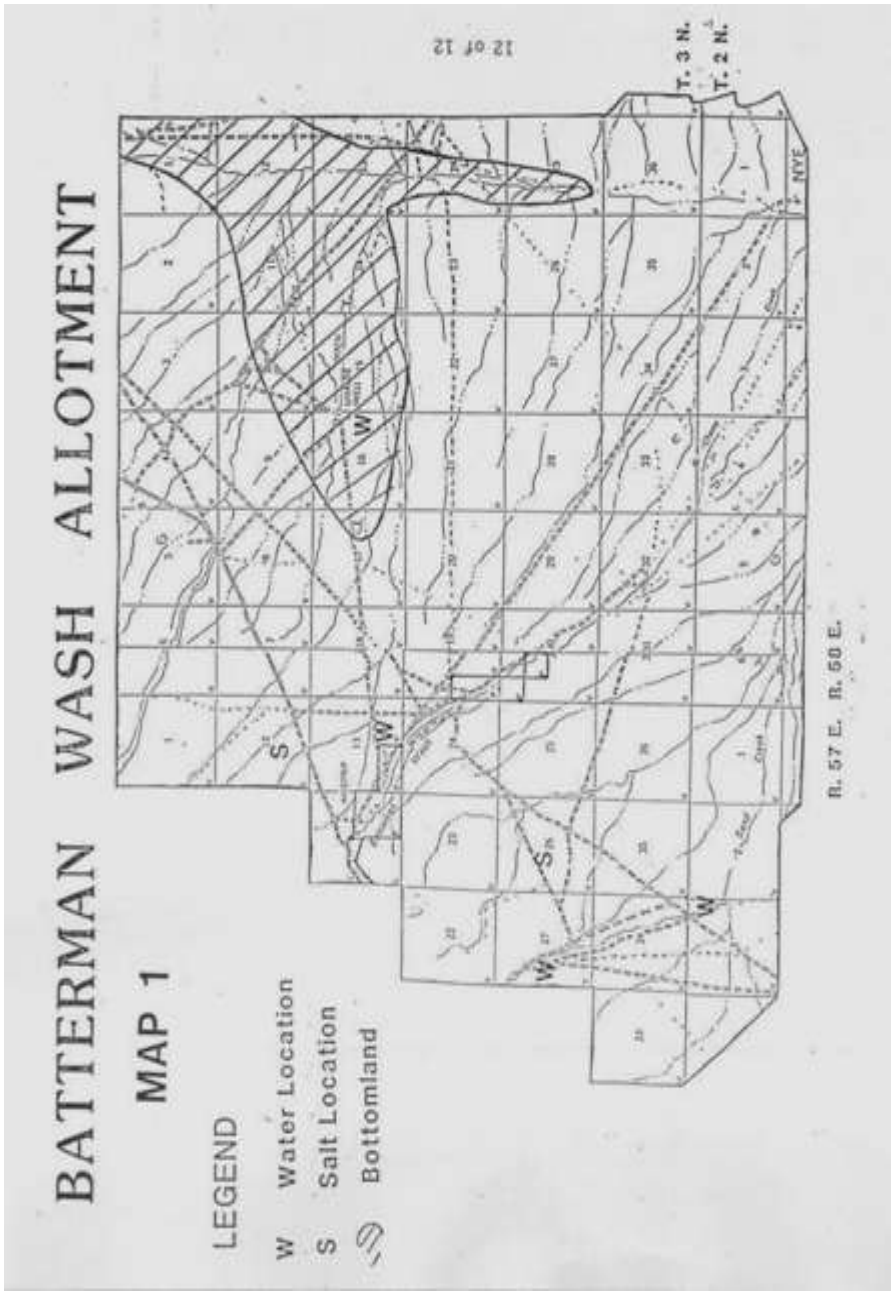
1. Livestock use is not authorized in the winterfat bottomland after 04/01. This area is illustrated in Map 1 of the Batterman Wash FMUD.
2. Salt will be placed at the following locations during 04/01 to 06/15 for the cattle spring period of use (refer to Map 1): T.3N.,R.57 E., Sec. 12, NESE and T.3N., R.57 E., Sec. 26, SENW.
3. Uhalde Well (JDR No. 0373) at T.3N., R.57E., Sec. 16 will be shut off between 04/01 and 06/15, except when gathering livestock, or other times as approved by the authorized officer.
4. Water will be made available for livestock within T.2N., R.57E., Sec. 3, (refer to Map 1) while the cattle are authorized on the allotment during spring grazing (04/01 to 06/15). This may be done by hauling water to designated areas and/or maintaining the Batterman Spring and pipeline (JDR No. 4619) located in T.3N., Sec. 27 SWNE, through Sec 34 ending in T.2N., R.57 E., Sec 3. The Batterman Spring area may be grazed by the permittee once every three years, after consultation with the authorized officer.

5. The existing water ditch beginning in T.3N., R.57E., Sec. 13, SESW and proceeding easterly through T.3N., R.58E., Sec. 18, 17, 16, 15 and 14 and the reservoirs for which you have a valid water right will be applied for under a cooperative agreement or section 4 permit with the Bureau of Land Management. That portion of the ditch and reservoir system past the first two reservoirs on the benchland, will not be utilized from 04/01 to 06/15 to water livestock in the winterfat bottom.

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

Figure 1. Map 1 from Batterman Wash FMUD



2.1.3 Invasive, Non-Native Species and Noxious Weeds

A Noxious and Invasive Weed Risk Assessment was completed on January 7, 2009 for the John Uhalde & Co. term grazing permit renewal. The following stipulations listed in the Weed Risk Assessment will be followed when grazing occurs on the allotments to minimize the effects on weeds:

- 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.
- 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.

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. Monitoring will determine when grazing will be authorized in burned areas, and will contribute to the selection of prescribed burn treatments or other types of treatments based on attainment of resource objectives" (pg. 88).

2.2 No Action Alternative

The No Action Alternative represents the status quo – the permit would be renewed without changes to grazing management or modifications to the permit terms and conditions. This could lead to further degradation of the allotments and reduce progress towards achieving the standards.

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 (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 Batterman Wash Allotment, West Timber Mountain Allotment and the Worthington Mountain Allotment encompass approximately 41,455 public land acres, 12,571 public land acres, and 77,902 public land acres, respectively (Appendix II, Figure I. General Map). The Batterman Wash Allotment is located in the northeastern portion of Nye County approximately 36 miles northwest of Hiko, Nevada in the Garden Valley watershed. The West Timber Mountain Allotment is located predominantly in the northwestern portion of Lincoln County with its northern edge located within Nye County. This allotment is approximately 32 miles north of Hiko in the Coal Valley watershed. The Worthington Mountain Allotment is located in northwestern Lincoln County approximately 21 miles from Hiko. Worthington Mountain Allotment if primarily within the Garden Valley watershed, but the west edge is in the Sand Springs watershed and the east edge is in the Coal Valley watershed. The east half of the West Timber Mountain Allotment is within the Weepaw Spring Wilderness. The western edge of the Worthington Mountain Allotment is in the Worthington Mountains Wilderness.

All three allotments are located in the Quinn sage grouse population unit (PMU), except the eastern half of West Timber Mountain Allotment which is not in a PMU. All three allotments are within the Nevada Department of Wildlife hunting management area #13. West Timber Mountain Allotment and Worthington Mountain Allotment contain unoccupied desertdesert bighorn sheep habitat. Batterman Wash Allotment does not contain any desert bighorn sheep habitat, but it is 2.4 miles south of occupied desert bighorn sheep habitat located in the Quinn Range. The northeast corner of Batterman Wash Allotment and all of the West Timber Mountain Allotment are within the former Seaman Wild Horse Herd Management Area that was closed in 2008 by the Ely District Record of Decision/Resource Management Plan.

These three allotments have one permittee, John Uhalde & Co. (#2704736). This permittee uses these allotments in conjunction with other allotments as part of their southern permit for (winter) grazing from late fall to early spring. Other allotments included on the John Uhalde & Co. (#2704736) southern permit are Black Bluff, Murphy Gap, South Coal Valley, and White River Trail. The term "southern permit" is used only as a reference to help clarify which term permit is being renewed with regard to this permittee. This permittee also holds a separate grazing permit for allotments in the northern portion of the Ely BLM District. The term "southern permit" will not be included on the actual permit, since the permit number identifies this differentiation. The current term permit for John Uhalde & Co. (#2704736) is issued for the period 03/01/2008 to 02/28/2018. Active AUMs currently permitted for Batterman Wash Allotment are 2,093 AUMs; West Timber Mountain Allotment 735 AUMs; and Worthington Mountain Allotment 5,641 AUMs. No AUMs have been suspended on these three allotments

The Murphy Gap Allotment encompasses approximately 35,210 public land acres (Appendix II, Figure I. General Map). This allotment is a common use allotment located approximately 15 miles northwest of Hiko, Nevada, in the northwestern portion of Lincoln County. The permit area occurs within the Coal Valley Watershed (020). Most of this allotment is located in the

Quinn Sage Grouse Population Unit, except the most southern portion of the allotment which is not located within a sage grouse population unit. The permit area occurs within the Nevada Department of Wildlife hunting management area #13. No springs or riparian areas are within the Murphy Gap Allotment, water sources are limited to wells and reservoirs. None of the Murphy Gap Allotment is within wilderness; the nearest wildernesses are the Worthington Mountains Wilderness and Weepah Spring Wilderness areas, which are approximately seven and a half miles to the west of the allotment and eight and a half miles east of the allotment, respectively. The Fossil Wild Fire is the most recent fire, burning 154 acres in the southern portion of the allotment in July of 2005. The Murphy Gap Allotment has two permittees, including John Uhalde & Co.

The White River Trail encompasses approximately 19,300 public land acres (Appendix II, Figure I. General Map) and covers approximately 40 miles. This is an adjudicated trail for sheep trailing in the spring and fall. The trail located approximately 19 miles southwest of Lund, Nevada in the northeastern portion of Nye County. The trail intersects four allotments: Sheep Trail Seeding Allotment, Hardy Spring Allotment, Forest Moon Allotment, and Dry Farm Allotment. The northern half of this trail occurs within the White River Central Watershed and the southern half occurs in the Garden Valley Watershed. The trail intersects two Herd Areas (HA), White River HA and the Seaman Range (HA). However, both of these HAs were closed in 2008 by the Ely District Record of Decision/Resource Management Plan. The trail is located in the Quinn Sage Grouse Population Unit and within the Nevada Department of Wildlife hunting management area #13. No springs or riparian areas occur within the White River Trail boundaries, water sources are limited to wells and reservoirs. None of the White River Trail is within wilderness; the nearest wilderness is the Grant Range Wilderness on National Forest Lands and approximately three miles west of the trail. The Sherwood Wild Fire, in 2006, is the only recent fire that has burned within the trail boundary. Three permittees, including John Uhalde & Co., have adjudicated Animal Unit Months (AUMs) specific to this trail for spring and fall sheep trailing. The three permittees are John Uhalde & Co, Blue Diamond Oil Corporation, and Double U Livestock LLC.

The South Coal Valley and Black Bluff Allotments are located 50 miles west of Caliente, Nevada in Coal Valley. The South Coal Valley Allotment encompasses 46,702 acres, and the Black Bluff Allotment encompasses 33,176 acres of BLM managed lands, all in Lincoln County, Nevada. Elevation ranges from 4200 - 6100 ft above sea level. The Seaman Range runs through the South Coal Valley and Black Bluff Allotments. Portions of these allotments are within the Seaman HA. However, the Seaman HA was closed in 2008 by the Ely District Record of Decision/Resource Management Plan. Both of these allotments are common use allotments with five permittees authorized in South Coal Valley and six permittees authorized in Black Bluff. John Uhalde & Co. is the only permit on these allotments that authorizes sheep use. The majority of the allotments are characterized by the vegetation of the sagebrush deserts. In the benches near the foot of the Seaman Range, the salt desert vegetation transitions into Wyoming sagebrush and black sagebrush.

3.2 Resources/Concerns Considered for Analysis

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 Ely BLM 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 air quality standards. Detailed 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). The allotments contain sites that are potentially eligible to the National Register of Historic Places. The allotments as a whole have not been adequately inventoried and recorded. All eligible historic resources need to be continuously monitored for impacts. Mitigation and treatment will be applied as concerns are identified.
Forest Health	No	The proposed action does not pose any impacts to forest health in 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 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 (SDDs, Appendix B-E) No further analysis is needed.
Migratory Birds	No	Bird species known to occur or that could occur in or near the project area, as determined during completion of surveys for The Nevada Breeding Bird Atlas (Floyd et al. 2007), are listed in Appendix B, Section 4. Insofar as the grazing management practices outlined in the Terms and Conditions of the Proposed Action work to maintain or move the vegetative conditions on the allotments toward the soils, upland, and habitat standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		Great Basin Area (USDI 1997), they will not adversely affect populations of migratory birds within the allotments.
Native American Religious Concerns	No	Tribal Coordination Letters were sent out November 19, 2008 for this term permit renewal notifying the tribes of a 30 day comment period. No concerns were identified. Neither direct, indirect, nor cumulative impacts would 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 area of the Proposed Action.
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 would not pose a negative 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 waterbodies of the State of Nevada are present in the project area.
Wilderness	No	Under the proposed action, trammeling activities would continue in the form of removal of vegetation through livestock grazing which is an allowable use of wilderness. The West Timber Mountain allotment which encompasses 4,475 acres of Weepah Spring Wilderness and Worthington Mountain allotment which encompass 11,916 acres of the Worthington Mountains Wilderness do not have any existing developments within wilderness for the support of livestock management.
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 allotments. Floodplains, as defined in Executive Order 11988, may exist in the area, but would not be affected by the Proposed Action.
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

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		(November 2007). Further changes to livestock management may be recommended as a result of the watershed analysis process.
Wetlands/Riparian Zones	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). Proposed actions are not expected to result in a change to riparian/wetland condition and function. Annual use intensity, duration, and frequency would not change and as such impacts are not expected to deviate from those discussed in the RMP. Riparian areas, wetlands, springs, and wells were mapped and assessed and can be found in the project file (Uhalde TPR Hydrology Report).
Noxious and Invasive Weed Management	Yes	Livestock grazing has the potential to spread noxious and non-native, invasive weeds.
Special Status Animal Species, other than those listed or proposed by the FWS as Threatened or Endangered	Yes	Impacts from livestock grazing on Special Status Species are analyzed on page 4.7-28 through page 4.7-30 of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). The greater sage grouse and pygmy rabbit have known habitat within the allotments that could be impacted by livestock grazing.
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered	No	Impacts from livestock grazing on Special Status Species are analyzed on page 4.7-28 through page 4.7-30 of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). White River catseye (*Cryptantha welshii*), a BLM Sensitive Species, has been documented (Nevada Natural Heritage Program 2007) just outside the northern periphery of the Batterman Wash allotment, and may occur in appropriate habitat throughout the proposed action area. Found in "dry, open, sparsely vegetated outcrops", White River catseye "appears to tolerate or even increase with transient disturbances within its habitat, such as animal trampling and roadside maintenance" (Nevada Natural Heritage Program 2007, data compiled 2001). Based on the habitat requirements of White River catseye, the proposed action is unlikely to negatively affect any extant populations within the area. No other Special Status plant species are known to occur within the Proposed Action 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

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		(November 2007). However the Seaman and White River Herd Management Areas (HMAs) were dropped to Herd Areas (HAs) in the Ely district Approved Resource Management Plan (August 2008). Therefore the proposed action would not impact wild horses.
Fish and Wildlife	Yes	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 (USDI BLM 2007). No fish are located within the allotments. Occupied mule deer and pronghorn range is present in the allotments. General habitat would be maintained or improved through implementation of the Proposed Action. Domestic sheep grazing has the potential to spread disease to Bighorn sheep (*Ovis canadensis nelsoni*). Currently bighorn sheep occupy the upper elevations of the Quinn Range, northwest of the Batterman Wash Allotment where domestic sheep (*O. aries*) have been and would continue to be authorized to graze under the proposed action.
Soil Resources		Impacts from livestock grazing on Soil Resources were analyzed on page 4.4-4 in the Ely Proposed resource Management Plan/Final Environmental Impact Statement (November 2007). Soils were analyzed in the SDDs (Appendix B - E).
Special Designations other than Designated Wilderness	No	No Special Designations occur within the project area.
Visual Resource Management (VRM)	No	The Proposed Action is consistent with the VRM classification 1, 2, 3, and 4 for the area therefore no direct, indirect, or cumulative impacts to visual resources would occur.
Grazing Uses	No	The proposed action establishes maximum allowable use on key forage plant species and continues the current grazing practices to progress toward achieving the Standards for Rangeland Health. The change on West Timber Mountain Allotment from sheep use only to dual use of sheep and cattle does not change the grazing intensity since AUMs for this allotment will not change. 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, indirect or cumulative impacts would

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		occur to access and land use.
Recreation Uses	No	Design features identified in the proposed action would result in negligible impacts to recreational activities.
Paleontological Resources	No	No identified paleontological resources are present in the proposed term permit renewal area.
Water Resources	No	Potential impacts to water quality are discussed above. There would be no changes from current uses of water from the Proposed Action.
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 in the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007) (page 4.5-9). Vegetation was analyzed in the SDDs. 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 allotments or are affected negligibly by the proposed action and do not require a detailed 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, wastes, hazardous or solid, wilderness, 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 are disclosed in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) and 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), Watershed Management (page 4.19-8), Special Status Species (page 4.7-28 through 4.7-30), and Noxious and Invasive Weed Management (page 4.21-5). Most of these resources do not require a further detailed analysis. Noxious and Invasive Weed Management, Fish and Wildlife, and Special Status Species (animals) do require further detailed analysis.

3.3 Resources/Concerns Analyzed

3.3.1 Noxious and Invasive Weeds

3.3.1.1 Affected Environment

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. West Timber Mountain, South Coal Valley, Murphy Gap, and the Worthington Mountain Allotments currently have no documented weed infestations within their boundaries. The following species are found within the boundaries of the Black Bluff Allotment:

Centaurea stoebe	Spotted knapweed
Tamarix spp.	Salt cedar

The following species are found within the boundaries of the Batterman Wash Allotment:

Cirsium vulgare	Bull thistle
Lepidium draba	Hoary cress
Onopordum acanthium	Scotch thistle

The following species are found within the boundaries of the White River Trail Allotment:

Acroptilon repens	Russian knapweed
Lepidium draba	Hoary cress

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

Acroptilon repens	Russian knapweed
Carduus nutans	Musk thistle
Centaurea stoebe	Spotted knapweed
Cirsium arvense	Canada thistle
Cirsium vulgare	Bull thistle
Lepidium draba	Hoary cress
Lepidium latifolium	Tall whitetop
Linaria dalmatica	Dalmatian toadflax
Onopordum acanthium	Scotch thistle
Tamarix spp.	Salt cedar

These areas were last inventoried for noxious weeds in 2007. While not officially documented the following non-native invasive weeds probably occur in or around both allotments: cheatgrass (*Bromus tectorum*), field bindweed (*Convolvulus arvensis*), Russian olive (*Elaeagnus angustifolia*), halogeton (*Halogeton glomeratus*), horehound (*Marrubium vulgare*), and Russian thistle (*Salsola kali*). It should be noted that several of these allotments border the BLM Battle Mountain District and no weed inventory data for this District is currently available.

3.3.1.2 Environmental Impacts

A Noxious and Invasive Weed Risk Assessment was completed for this project. The Proposed Action could increase the populations of the noxious and invasive weeds already within the allotments and could aid in the introduction of weeds from surrounding areas. Within the allotments, watering and salt block sites are of particular concern of new weed infestations due to the concentration of livestock around those sites and the amount of ground disturbance associated with that. If new weed infestations become established within the allotments, this could have an adverse impact to those native plant communities. However, since there are many weed infestations currently within the allotments, those impacts would be limited. Also, any

increase of cheatgrass could alter the fire regime in the area. These impacts would be less than the No-Action Alternative due to the Terms and Conditions placed on this permit.

3.3.2 Fish and Wildlife
3.3.2.1 Affected Environment
Bighorn sheep - Bighorn sheep (*Ovis canadensis nelsoni*) occupy the upper elevations of the Quinn Range, northwest of the Batterman Wash Allotment where domestic sheep (*O. aries*) have been and would continue to be authorized to graze under the proposed action.

3.3.2.2 Environmental Impacts
Mike Podborny (Wildlife Biologist, Nevada Department of Wildlife, 2/2009) indicated that this particular herd of bighorns has always moved west to lower elevation wintering areas within Railroad Valley. He stated that the likelihood that any individual bighorns would move southeast (through the unsuitable dense conifer vegetation found on the east slope of the Quinn Range) and come into potential conflict with domestic sheep in the Batterman Wash allotment is low. Therefore, the proposed action is unlikely to affect nearby populations of bighorn sheep. These impacts would be the same with the No-Action Alternative since the location has not changed.

3.3.3 Special Status Species
3.3.3.1 Affected Environment
Greater sage-grouse
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 Lincoln County sage-grouse conservation plan (hereafter termed the Plan; 2004) includes a sagebrush habitat rating system used in the Plan. One category, termed "R2", is defined as "Areas with inadequate grass/forb understory composition, adequate sagebrush cover". The Batterman Wash, Worthington Mountain, and West Timber allotments lie within the Quinn PMU, and no estimates of habitat categories have been produced for this area. However, based on cover data collected for Batterman Wash, Worthington Mountain, and West Timber allotments, and professional observations throughout the allotments, a similar approach to evaluating the suitability of sagebrush communities for greater sage-grouse can be employed. The sagebrush vegetative communities at key areas BW-02, WTM-01, and WM-02 measured within the allotments are evaluated below.

Key areas are sited in areas representative of livestock grazing on the major vegetation types throughout the allotments. One (BW-02) of two key areas within the Batterman Wash allotment and is a black sage/Indian ricegrass ecological site (029XY008NV), located within current or potential sage-grouse habitat. Under the sage-grouse guidelines, the herbaceous grass and forb component combined should comprise at least 15% of the vegetative community by cover, and sagebrush should comprise at least 15-25% of vegetative cover (Connelly et al. 2000). This site is not meeting the herbaceous understory cover requirements established within the sage-grouse guidelines, as all grasses and forbs combined comprised less than one percent cover (Table 2.3). Sagebrush cover (15%) barely met the minimum set forth within the guidelines.

Within the West Timber Mountain allotment key area WTM-01 is also located within a black sage/Indian ricegrass ecological site (029XY008NV), and is current or potential sage-grouse habitat. Percent cover of grasses and forbs combined was 2.5% and sagebrush cover was 5.9%, well below the minimums established in the sage-grouse guidelines (Connelly et al. 2000).

Within the Worthington Mountain allotment, key area WM-02 is located on the same (029XY008NV) ecological site and is current or potential sage-grouse habitat. This site had 1.3% cover of grasses/forbs and 21.1% sagebrush cover. This lack of an herbaceous understory indicates the allotment does not meet the sage-grouse guidelines (Connelly et al. 2000).

Pygmy Rabbit

There is one documented occurrence of pygmy rabbit (*Brachylagus idahoensis*) within the White River Trail within the proposed action area. Populations are likely wherever taller sagebrush occurs in concert with friable soils. Loss of habitat through "fire, grazing, invasion of exotic annuals, and agricultural conversion" has been identified as the most significant contributing factor to pygmy population declines (Whisenant 1990, Knick and Rotenberry 1995, 1997 *in* Wildlife Action Plan Team 2006).

3.3.3.2 Environmental Impacts

Greater sage-grouse

The vegetative composition in sagebrush communities within the allotments is currently not providing the desired habitat components to sustain any greater sage-grouse present. Site specific evaluation of sage-grouse habitat guidelines should be tempered with consideration of site potentials described in the Ecological Site Description (ESD).

> There is much variability among sagebrush-dominated habitats (Tisdale and Hironaka 1981, Hironaka et al. 1983), and some Wyoming sagebrush and low sagebrush breeding habitats may not support 25% herbaceous cover. In these areas, total herbaceous cover should be >15 % . Further, the herbaceous height requirement may not be possible in habitats dominated by grasses that are relatively short when mature. In all of these cases, local biologists and range ecologists should develop height and cover requirements that are reasonable and ecologically defensible. (Connelly et al. 2000)

Because these allotments are not meeting the desired vegetative composition for Standard 3 or the guidelines for sage-grouse habitat, they fail to meet the needs of the key "umbrella" species for sagebrush habitats identified in the Ely District Resource Management Plan (USDI BLM 2008). The grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions toward the cover and habitat standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will benefit sage grouse populations within the allotments. These impacts would be less than the No-Action Alternative due to the Terms and Conditions placed on this permit.

Pygmy Rabbit
Vegetative composition in sagebrush communities within the allotments is currently not providing the desired habitat components to sustain any pygmy rabbits present. Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions toward the cover and habitat standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will benefit any extant populations of pygmy rabbit within the allotments. These impacts would be less than the No-Action Alternative due to the Terms and Conditions placed on this permit.

4.0 Cumulative Impacts

According to the 1997 BLM publication *Guidelines for Assessing and Documenting Cumulative Impacts*, the cumulative analysis should be focused on those issues and resource values where the incremental impact of the Proposed Action results in a meaningful change in the cumulative effect from other past, present and reasonably foreseeable future actions within the Cumulative Effects Study Area (CESA).

Additionally, the guidance provided in The National BLM NEPA Handbook H-1790-1 (2008), for analyzing cumulative effects issues states, "determine which of the issues identified for analysis may involve a cumulative effect with other past, present, or reasonably foreseeable future actions. If the proposed action and alternatives would have no direct or indirect effects on a resource, you do not need a cumulative effects analysis on that resource" (p.57).

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).

Most past and all present and reasonably foreseeable future actions have noxious and invasive weed prevention stipulations and required weed treatment requirements associated with each project. This in combination with the active BLM Ely District Weed Management Program will minimize the spread of weeds throughout the watersheds.

Most past and all present and reasonably foreseeable future actions address bighorn sheep regarding impacts to these species. Since bighorn sheep are not anticipated near the CESA a detailed analysis of cumulative effects is not necessary.

Most past and all present and reasonably foreseeable future actions address special status species concerns regarding impacts to these species. The implementation of the changes proposed in the renewal of these grazing permits will minimize impacts to special status species and their habitat, and may in some instances improve their habitat.

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 Consultation and Coordination

6.1 List of Preparers - BLM Resource Specialists

Mindy Seal	Rangeland Resources/Project Lead
Gina Jones	Ecology/Planning and Environmental Coordinator
Joe David	Planning and Environmental Coordinator
Bonnie Million	Noxious and Invasive, Non-native Species
Cameron Collins	Wildlife, Special Status Species, and Migratory Birds
Alicia Styles	Wildlife, Special Status Species, and Migratory Birds
Kalem Lenard	Recreation and Visual Resources
Lisa Gilbert	Cultural Resources
Mark D'Aversa	Soil, Water, Wetland and Riparian, and Floodplain Resources
Ruth Thompson	Wild Horse and Burro Resources
Elvis Wall	Native American Cultural Concerns
Dave Jacobson	Wilderness Resources
Zach Peterson	Forestry Resources
Chris Mayer	Rangeland Resources
Melanie Peterson	Hazardous & Solid Waste/Safety

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 in December 2009, have requested additional information regarding rangeland related actions or programs within these allotments. Also included in this list are other permittees with permits within the boundaries of these allotments.

Nevada Department of Wildlife, Steve Foree
Western Watersheds Project, Katie Fite
Steven Carter
Sustainable Grazing Coalition, Richard Orr
Eastern Nevada Landscape Coalition, Betsy Macfarlan
Nevada Department of Wildlife, D Bradford Hardenbrook
Joe McGloin
Thomas Rosevear
Double U Livestock, L.L.C. Wade West
Carl Slaqowski
Blue Diamond Oil Corporation
Carter Cattle Co.
Higbee Brothers
Higbee, Varlin S.
Bruce & Pamela Jensen
Denny Larson

Vaughn M. Higbee
Charles & Clayton Wadsworth
Nevada State Clearinghouse (electronic copy only)

All of these entities will be mailed a copy of the preliminary EA and draft standard determination documents for Batterman Wash Allotment, West Timber Mountain Allotment, and Worthington Mountain Allotment; Murphy Gap Allotment; and the White River Trail for review and comment. The Black Bluff Allotment and South Coal Valley Allotment where included in a SDD that was reviewed by the public in 2008. A copy of this SDD will be provided for reference purposes.

6.2 Persons, Groups or Agencies Consulted

6.3 Public Notice of Availability

An external review period of the preliminary EA will be issued.

References

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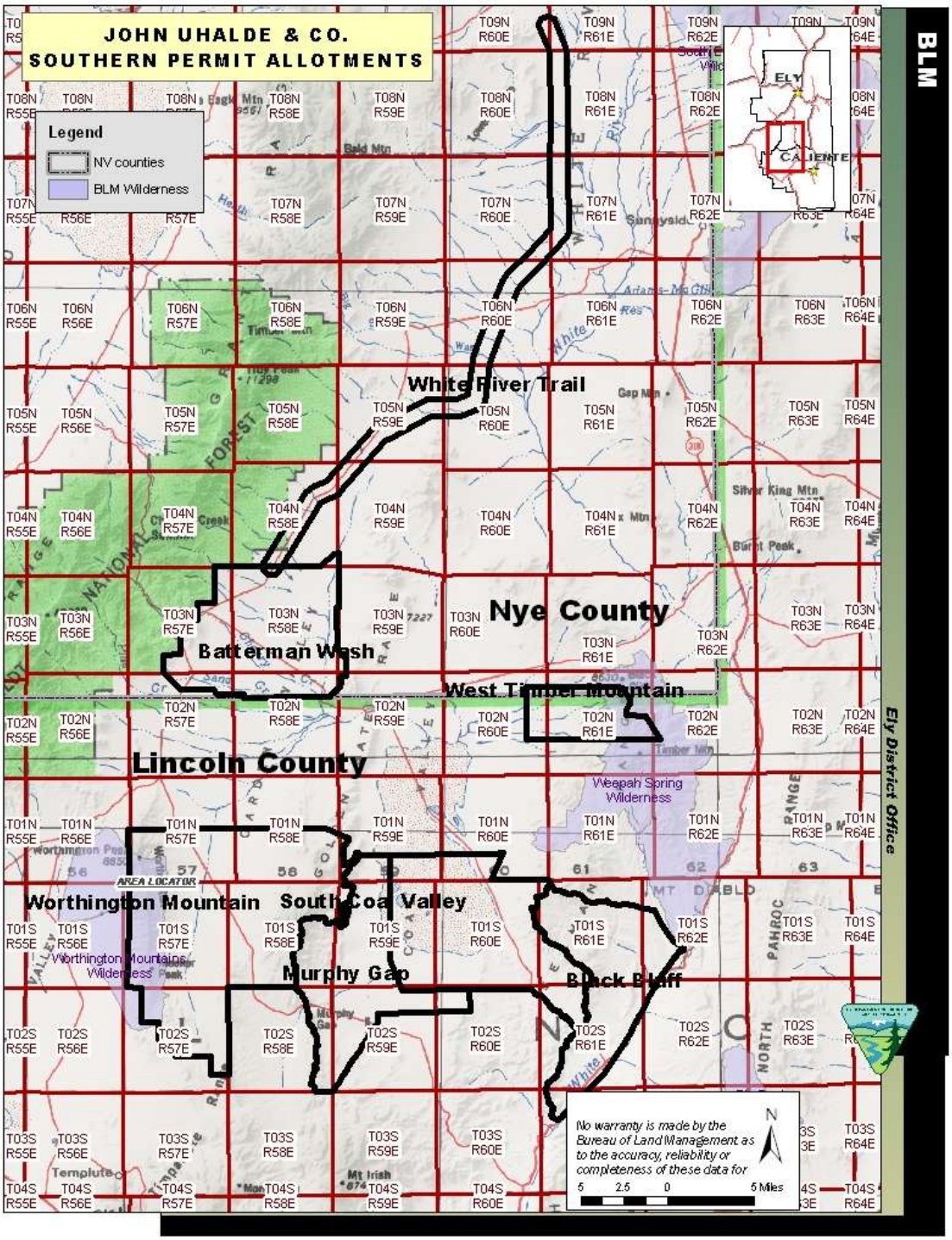
APPENDIX A—GENERAL LOCATION MAP

Figure 2. General Location Map



APPENDIX B - BATTERMAN WASH, WEST TIMBER MOUNTAIN, AND WORTHINGTON MOUNTAIN ALLOTMENTS - SDD

Standards and Guidelines Assessment

The Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area were developed by the Mojave-Southern Great Basin 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 Batterman Wash Allotment (11018), West Timber Mountain Allotment (11020), and Worthington Mountain Allotment (11021) in the Ely BLM 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 Batterman Wash, West Timber Mountain, and Worthington Mountain Allotments by a BLM interdisciplinary team consisting of rangeland management specialists, wildlife biologist, weeds specialist, ecologist, and a hydrologist. Documents and publications used in the assessment process include the Soil Survey of Lincoln County, Nevada, North Part; Ecological Site Descriptions for Major Land Resource Areas 28 and 29; Soil Survey of Nye County, Nevada, Northeast Part; 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). A complete list of references is included at the end of this document. All are available for public review in the Ely BLM 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 Batterman Wash Allotment, West Timber Mountain Allotment and the Worthington Mountain Allotment encompass approximately 41,455 public land acres, 12,571 public land acres, and 77,902 public land acres, respectively (Appendix II, Figure I. General Map). The Batterman Wash Allotment is located in the northeastern portion of Nye County approximately 36 miles northwest of Hiko, Nevada in the Garden Valley watershed. The West Timber Mountain Allotment is located predominantly in the northwestern portion of Lincoln County with its northern edge located within Nye County. This allotment is approximately 32 miles north of Hiko in the Coal Valley watershed. The Worthington Mountain Allotment is located in northwestern Lincoln County approximately 21 miles from Hiko. Worthington Mountain Allotment is primarily within the Garden Valley watershed, but the west edge is in the Sand Springs watershed and the east edge is in the Coal Valley watershed. The east half of the West

Timber Mountain Allotment is within the Weepaw Spring Wilderness. The western edge of the Worthington Mountain Allotment is in the Worthington Mountains Wilderness. All three allotments are located in the Quinn sage grouse population unit (PMU), except the eastern half of West Timber Mountain Allotment which is not in a PMU. All three allotments are within the Nevada Department of Wildlife hunting management area #13. West Timber Mountain Allotment and Worthington Mountain Allotment contain unoccupied desert bighorn sheep habitat. Batterman Wash Allotment does not contain any desert bighorn sheep habitat, but it is 2.4 miles south of occupied desert bighorn sheep habitat located in the Quinn Range. The northeast corner of Batterman Wash Allotment and all of the West Timber Mountain Allotment are within the former Seaman Wild Horse Herd Management Area that was closed in 2008 by the Ely District Record of Decision/Resource Management Plan. The table below depicts all three allotments association to watersheds and wilderness.

These three allotments have one permittee, John Uhalde & Co. (#2704736). This permittee uses these allotments in conjunction with other allotments as part of their southern permit for (winter) grazing from late fall to early spring. Other allotments included on the John Uhalde & Co. (#2704736) southern permit are Black Bluff, Murphy Gap, South Coal Valley, and White River Trail. The term "southern permit" is used only as a reference to help clarify which term permit is being renewed with regard to this permittee. This permittee also holds a separate grazing permit for allotments in the northern portion of the Ely BLM District. The term "southern permit" will not be included on the actual permit, since the permit number identifies this differentiation. The current term permit for John Uhalde & Co. (#2704736) is issued for the period 03/01/2008 to 02/28/2018. Active AUMs currently permitted for Batterman Wash Allotment are 2,093 AUMs; West Timber Mountain Allotment 735 AUMs; and Worthington Mountain Allotment 5,641 AUMs. No AUMs have been suspended on these three allotments

Table 1. Current Permitted Use

Allotment	Livestock Number & Kind	Period of Use	*Active (AUMs)
Batterman Wash	887 Sheep	12/01-04/15	793
	243 Cattle	11/15-03/31	1095
	80 Cattle	04/01-06/15	200
West Timber Mountain	822 Sheep	12/01-04/15	736
Worthington Mountain	695 Cattle	01/13-05/31	3176
	3200 Sheep	12/15-04/10	2462

* AUMs may differ from Active Use due to a calculation difference with the number of livestock and the period of use.

This Standards Determination Document evaluates and assesses livestock grazing management achievement of the Standards and conformance with the Guidelines for these three allotments. Based on this document, and other associated Standards Determination Documents completed for the other allotments listed above, a new term grazing permit could be issued this year to John Uhalde & Co. (#2704736) for a period up to ten years for the permittee's southern permit on the Ely BLM District.

The 1990 Batterman Wash Final Multiple Use Decision (FMUD) and the 1996 Seaman FMUD were both reviewed and taken in to consideration along with the analysis of current data. These decisions carried forth the management actions and adjustments to permitted use on the Batterman Wash Allotment and the West Timber Mountain Allotment. The Final Multiple Use Decisions were based upon the evaluation of monitoring data, recommendations from district staff, and input received through consultation, coordination, and cooperation from the permittee and public interest groups to determine progress in meeting management objectives for each allotment. Based on these decisions, range management actions were implemented to meet the land use plan objectives as stipulated in the Schell Resource Area Record of Decision. These actions included setting moderate utilization levels for key forage plants and implementing a grazing rotation system for sheep use during the spring rotating between South Coal Valley, Murphy Gap, and Worthington Mountain Allotments so that lambing does not occur on any one allotment more than every other year. Most of the terms and conditions for these FMUDs are still pertinent based on this determination and are included in Part 4. Recommendations.

PART 1. STANDARD CONFORMANCE REVIEW

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:

- Stream bank stability.

Batterman Wash Allotment Standard 1 Review

Determination:

□ Achieving the Standard

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

Guidelines Conformance:
X In conformance with the Guidelines
□ **Not** in conformance with the Guidelines

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

UPLANDS: Rangeland monitoring and professional observation indicates that overall soil condition is currently being maintained. Soils appear to be stable and the topsoil is holding in place with no new rills or gullying evident in this allotment. There is minimal pedestaling in the winterfat plant community where the soils are very fine sandy loam.

Key area BW-01 occurs in the Linoyer series within the 3970 soil mapping unit (SMU) and is a sandy loam with 0-2% slopes. This soil mapping unit occurs on about a sixth of the allotment and is dominated by winterfat vegetation. The ecological site for this key area is 028BY013NV. Soils are well drained with moderate to high available water holding capacity. Potential for sheet and rill erosion is slight; however this soil does have the potential to form gullies. The ecological site description (ESD) suggests that approximate ground cover (basal and crown) at BW-01 should be between 10-20%. Actual total live vegetative cover was 10%. The two primary species, winterfat and budsage, covered six and four percent, respectively. Although winterfat and bud sagebrush were the main sources of live vegetative cover, other species that contributed to cover included fourwing saltbrush, cryptantha, and Indian ricegrass. The winterfat was vigorous and appeared to assist in stabilizing soil at the site. Erosion of the very fine sandy loam soil was observed with a minimal amount of pedestaling around the winterfat plants. Utilization at this key area was moderate in 2008 (Table 6-1). All indications are that this area is stable and functioning according to potential of the site.

Key area BW-02 occurs in the Ursine series within the 3310 SMU and is a gravelly loam with 2-8% slopes. This SMU occurs on about a sixth of the allotment and is dominated by black sagebrush vegetative community. The ecological site for this key area is 029XY008NV. Soils are shallow. Available water capacity is low to moderate and runoff is slow to rapid depending on slope. The ESD suggests that approximate ground cover (basal and crown) at BW-02 should be between 20-30%. Actual live vegetative cover was 17%. Black sagebrush made up 12% of the cover, while Wyoming sagebrush made up 2%. Other species that contributed to live vegetative cover included fourwing saltbrush, Douglas rabbitbrush, desert globemallow, galleta, onion, and longleaf phlox. The vegetation appeared vigorous and to be assisting in stabilizing soil at the site. No rilling or gullies were observed. Utilization at this key area was slight in 2008. This site does not meet the soil indicators for Standard 1 because it is below the recommended amount of cover.

Other large soil mapping units on the allotment are 3333, 3414, 3754, 3301, and 3672. Soil composition ranges in these units from gravelly loamy sand to very gravelly loam with slopes varying from 2-8% on the alluvial fans and increasing to 8-30% slopes in the mountains. Runoff varies with slope and permeability of the soils. No recent rills or gullies were observed in 2008. No key areas are established in these other soil mapping units because they do not reflect the current grazing management over the allotment as a whole (Nevada Rangeland Monitoring Handbook 2006). Based on the indicators for soils this allotment is not meeting this standard due to low live vegetative cover at BW-02 Soils appear to be stable and there is litter protecting the soil surface,

Utilization was moderate or less in 2008 on key forage species and this allotment has been rested from livestock grazing from late spring to early fall. Livestock are grazed in this allotment during the critical spring growing period through a deferred grazing system that uses water to rotate use. It is also stipulated that livestock not graze winterfat bottomland after April 1st. This grazing system allows the key forage vegetation to complete the phenological cycle on alternating years. Because of the rotation system livestock are not a significant contributing factor to current conditions. Timing and amount of precipitation (see Appendix I, Table 7-1) and the lack of natural disturbance in the black sagebrush community may be impacting the amount of live vegetative cover.

RIPARIAN: Two riparian areas occur within the Batterman Wash Allotment, Cherry Creek (lotic) and the Batterman Springs, a complex of 3 springs (lentic).

Cherry Creek originates on National Forest Lands in the Quinn Range. This creek runs through private land and is used for irrigation before it reaches BLM administered public land. In recent years the water has not reach public land. It was rated nonfunctional with minimal riparian potential in 1993 by a team assessing proper functioning condition. No riparian vegetation grows along the banks of the creek due to the lack of water. There is no riparian vegetation present to stabilize the system during high water events, the channel is incised with steep banks, and the banks continue to erode.

The Batterman Spring complex was rated as being in proper functioning condition by a team of specialists in 2008. This riparian area was fenced following the Batterman Wash FMUD recommendations, which included allowing livestock grazing every three years. There is a variety of riparian vegetation present including sedges, rushes, and rosebush. Soils appear to be stable (Appendix I, Figure 4-1).

Standard 1 is not being achieved for riparian areas. Livestock are not considered a causal factor in not meeting Standard 1 for riparian. Failure to meet the standard is related to other issues or conditions. Water in Cherry Creek is being diverted for irrigation, so there is a lack of flow to support riparian vegetation that would help to stabilize the banks during high water events.

West Timber Mountain Allotment Standard 1 Review

Determination:

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

UPLANDS: Rangeland monitoring and professional observation indicates that overall soil condition is currently being maintained. Soils throughout most of the allotment appear to be stable and the topsoil is holding in place.

Key area WTM-01 occurs in the Ursine series within the 1032 SMU and is a gravelly loam with 2-8% slopes. This SMU occurs on about a half of the allotment and is dominated by black sagebrush vegetative community. The ecological site for this key area is 029XY008NV. The soil surface is very gravelly loam and covered with pebbles, along with cobbles and stones. The topography is fan piedmont slopes. Soils are shallow. Available water capacity is low to moderate and runoff is slow to rapid depending on slope. The ESD suggests that approximate ground cover (basal and crown) at WTM-01 should be between 20-30%. Actual cover was 11.21%. Black sagebrush made up 5.85% of the cover, while galleta made up 1.16%. Other species that contributed to live vegetative cover included Indian ricegrass, bottlebrush squirreltail, globemallow, phlox, budsage, fourwing saltbrush, spineless horsebrush and cholla catus. The vegetation was vigorous and appeared to assist in stabilizing soil at the site. No rilling or gullies were observed. Utilization at this key area was slight in 2008. This site does not meet the soil indicators for Standard 1 because it is below the recommended amount of cover.

The other large soil mapping unit on this allotment is 1900 Eaglepass-Rock outcrop-Amtoft association. Soil composition ranges from gravelly loamy coarse sand to very gravelly loam and rock outcrops. Slopes varying from 8-75% and the topography is alluvial fans and mountains. Runoff varies with slope and permeability of the soils. These soils appear to be stable with no recent rills or gullies observed. Soils appear to be stable and there is litter protecting the soil surface.

Utilization was slight in 2008 on key forage species and this allotment has been rested from livestock grazing from late spring to early fall. Livestock are grazed in this

allotment during the critical spring growing period through a deferred grazing system. This is a small allotment that is fenced and used as a pasture to rotate use between this allotment and the other allotments. Spring lambing on this allotment is only allowed every third year to defer grazing. This grazing system allows the key forage vegetation to complete the phenological cycle on alternating years. Because of the rotation system livestock are not a significant contributing factor to current conditions. Timing and amount of precipitation (see Appendix I, Table 7-1) and the lack of natural disturbance in the black sagebrush community may be impacting the amount of live vegetative cover.

RIPARIAN: There are no riparian areas within the West Timber Mountain Allotment; therefore the riparian portion of Standard 1 will not be analyzed further.

Worthington Mountain Allotment Standard 1 Review

Determination:

X 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 significant contributing factor to not achieving the standard.

□ Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:

X In conformance with the Guidelines

□ Not in conformance with the Guidelines

Conclusion: *Standard is Achieved*.

UPLANDS: Rangeland monitoring and professional observation indicates that overall soil condition is currently being maintained. Soils appear to be stable and the topsoil is holding in place.

Key area WM-02 occurs in the Chubard-Littleailie-Devildog association within the 2305 SMU and is a gravelly sandy loam with 2-8% slopes. This SMU occurs in scattered locations throughout the southern part of the allotment and is dominated by black sagebrush vegetative community. The ecological site for this key area is 029XY008NV. The soil surface is gravelly loam with rocks and cobbles present. The topography is fan piedmonts. Soils are shallow. Permeability is moderate and runoff is very high. The ESD suggests that approximate ground cover (basal and crown) at WM-02 should be between 20-30%. Actual cover was 22%. Black sagebrush made up 21% of the cover, while galleta made up 1%. Other species that contributed to live vegetative cover included Indian ricegrass and phlox. The vegetation was vigorous and appeared to assist in stabilizing soil at the site. No rilling or gullies were observed. Utilization at this key area was slight in 2008. This site meets the soil indicators for Standard 1.

Study Site 1 occurs in the Penoyer-Geer association within the 3190 SMU and is a silt loam with 0-2% slopes. This SMU occurs in the north central part of the allotment and is dominated by winterfat vegetative community. The ecological site for this key area is 029XY020NV. The surface layer of these soils will normally develop a vesicular crust, inhibiting water infiltration and seedling emergence. Permeability is moderate to slow with moderate to high available water holding capacity. Potential for sheet and rill erosion is moderate and there is the potential for gully formation where concentration of overland flows occurs. The topography is fan insets. Soils are deep. The ESD suggests that approximate ground cover (basal and crown) at SS 1 should be between 10-20%. Actual cover was 10%. Winterfat made up 10% of the cover. Russian thistle, a shallow rooted nonnative invasive species, was noted in the data collected for the winterfat community. However at 0.11% of the vegetative cover recorded, it did not appear to be altering soil stability at this site. No other species were found in the cover transect. The winterfat appeared vigorous and to be stabilizing soil at the site. No rilling or gullies were observed. In 2008 utilization was in the no use range. This site meets the soil indicators for Standard 1.

A variety of soil mapping units are scattered throughout the allotment including 1053, 1900, 3409, 1359, and 2285. Soil composition ranges in these units from gravelly loamy sand to very gravelly loam with slopes varying from 2-8% on the alluvial fans and increasing to 8-75% slopes in the mountains. Runoff varies with slope and permeability of the soils. These soils appear to be stable with no recent rills or gullies observed. Based on the indicators and professional observations this allotment is achieving Standard 1.

RIPARIAN: There are four springs within the Worthington Mountain Allotment, see Appendix II, Figure 10 for locations. An unnamed spring located in the northwest portion of the allotment at over 6,500 feet elevation is inaccessible to livestock and was not assessed. The three other springs are developed. Modes Spring is developed and does not meet the lentic area definition for riparian characteristics that need to be present in order to be considered a riparian area. Water is not present at this site and no riparian vegetation is present. However, the other two springs, Stink Bug Spring and Sharp Spring, do meet the lentic area definition (TR-1737-16 A User Guide to Assessing PFC and Supporting Science for Lentic Areas) that "lentic areas provide enough available water to the root zone to establish and maintain riparian-wetland vegetation." and were assessed in 2008.

Stink Bug Spring was rated proper functioning condition and had stable banks with adequate riparian vegetation. Since no visible water was observed at Sharp Spring it was rated nonfunctional, however soils were stable and adequate riparian vegetation was present to stabilize soils. Standard 1 is being achieved at both springs based on the indicators.

Standard 2. Ecosystem Components
Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- 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 acceleration 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).
    - Other covers (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.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the State water quality Standards.

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

Batterman Wash Allotment Standard 2 Review

Determination:

□ Achieving the Standard

X 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 significant contributing factor to not achieving the standard.

X Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

UPLANDS INDICATORS AND ECOLOGICAL PROCESSES: Ecological processes are defined by the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area as **"**Natural functions including the hydrologic cycle, the nutrient cycle, and energy flow (see also 43 CFR 4180.1(b))." The Batterman Wash Allotment is dominated primarily by salt desert shrub communities, and sagebrush shrub communities. The regional topography of the allotment is composed of a drainage basin bordered by rising piedmont slopes and mountains on the west side. The topography leads to the development of washes and floodplains drawing rain run-off in an easterly direction.

Salt Desert Shrub
Salt desert shrub plant communities are located at the lower elevations in the eastern portions of the allotment. Often these areas are dominated by salt tolerant species with locations ranging from the dry lake beds to mid-slope. Vegetation is characterized by four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), ephedra (*Ephedra nevadensis*), winterfat (*Krasheninnikovia lanata*), Indian ricegrass, and small galleta (*Pleuraphis jamesii*). Key area BW-01 is in the winterfat community within the salt desert shrub communities.

Based on cover studies, key area BW-01 is demonstrating a low composition of grass species and a high composition of shrub species with winterfat as the dominate specie. Russian thistle, an invasive nonnative annual, is represented throughout this area in varying densities. It is most dense along existing disturbances such as roads. It occurs in smaller densities elsewhere and is invading into the winterfat plant communities. Russian thistle was not recorded using Line Intercept Cover Study at BW-01, but it was recorded in the Frequency Study. The increase in Russian thistle indicates that the ecological processes are not adequate for these vegetative communities (see Appendix B, Tables 2-2 and 3-1). Russian thistle tolerates alkaline soil conditions. Water is a limiting factor for vegetation in this area and Russian thistle is very competitive for soil moisture, limiting available soil moisture for other vegetation and interfering with the ecological processes of native vegetation (Orloff, 2006).

Sagebrush Shrub
Sagebrush shrub plant communities are found at higher elevations on the benches of this allotment (Appendix II, Figure 3). These communities are characterized by Wyoming sagebrush (*Artemisia tridentata var. wyomingensis*), spiny hopsage (*Grayia spinosa)* and/or black sagebrush (*Artemisia nova)* which may be accompanied by an assortment of

perennial native bunch grasses such as Indian ricegrass, squirreltail (*Elymus elymoides*), *Poa* spp., needle and thread, small galleta, etc. Key area BW-02 is in a black sagebrush community within the sagebrush shrub plant communities.

Based a cover study in 2008, key areas BW-02 has are demonstrating a low composition of grass species and a high composition of shrub species. There is also 2% composition based on cover of mustard weed. "Plant communities with large amounts of basal cover, such as grasslands, tend to slow runoff more than communities with small amounts of basal cover, such as shrub lands."(NRCS 2001) Live vegetative cover is below the ESDs for this sagebrush communities which may decrease soil infiltration rates and increase runoff rates.

Utilization was moderate or less in 2008 on key forage species and this allotment has been rested from livestock grazing from late spring to early fall. Livestock are grazed in this allotment during the critical spring growing period through a deferred grazing system that uses water to rotate use. It is also stipulated that livestock not graze winterfat bottomland after April 1st. This grazing system allows the key forage vegetation to complete the phenological cycle on alternating years. Livestock are not a significant contributing factor to current conditions. Timing and amount of precipitation (see Appendix I, Table 7-1) and the lack of natural disturbance in the black sagebrush community may be impacting the lack of grasses.

RIPARIAN: The two riparian areas within the Batterman Wash Allotment are Cherry Creek (lotic) and the Batterman Springs, a complex of 3 springs (lentic). As already stated in Standard 1, Cherry Creek is considered nonfunctional due to the water flow being diverted. Because of this diversion riparian vegetation is not supported along this stream and the indicators to determine achievement of Standard 2 for this stream are not applicable. Batterman Springs is a complex of natural springs that are functioning properly with diverse and vigorous riparian vegetation present. This spring complex has adequate water retention within the riparian area, therefore Standard 2 is being achieved for riparian.

West Timber Mountain Allotment Standard 2 Review

Determination:

□ Achieving the Standard

X 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 significant contributing factor to not achieving the standard.

X Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:

X In conformance with the Guidelines

□ Not in conformance with the Guidelines

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

UPLANDS: The ecological processes are not being met on the upland vegetative communities within this allotment. The West Timber Mountain Allotment is dominated primarily by pinyon and juniper woodlands on the eastern portion of the allotment and by sagebrush shrub throughout the remainder of the allotment. Pockets of salt desert shrub communities are scattered within the sagebrush shrub communities and found on the lower elevations on the western edge of the allotment (Appendix II, Figure 6).

There is one key area, WTM-01, on the allotment located in a black sagebrush community. At this site the double weight sampling method was used to determine plant composition and seral status for the black sagebrush community. The amount of cheatgrass in this community has increased over the past ten years and during this same time the perennial grasses have declined. While the lack of perennial grasses and increase in cheatgrass are issues, the data collected also showed a noteworthy increase in forbs, which along with perennial grasses helps contribute to the herbaceous understory and stabilizes soils. Also, the late seral stage for this area has only varied from 56% in 1997 to 53% in 2008.

The lack of perennial grasses is impacting nutrient cycling within this plant community by not providing the appropriate inputs of organic matter to the surface soil layer. This site lacks native perennial grasses that would provide additional inputs of organic matter for soil biota. Although the shrubs are contributing to the soil biota and nutrient cycling is occurring in the soil, a more diverse composition of vegetation that included perennial grasses would increase nutrient cycling and influence soil development. The higher forb component is helping by contributing to an herbaceous understory that provides some organic matter to aid in the porosity of the soils and to help maintain soil stability and dissipate energy.

As stated previously, one of the components missing within the sagebrush shrub communities is the fire disturbance cycle which may be preventing these communities from maintaining a higher composition of grasses. Livestock are not a significant causal factor in not achieving Standard 2.

RIPARIAN: Not applicable for the West Timber Mountain Allotment.

Worthington Mountain Allotment Standard 2 Review

Determination:

□ Achieving the Standard

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

UPLANDS: The ecological processes are not being met on the upland vegetative communities because the low composition of grasses is preventing adequate nutrient cycling. However, all other natural functions including the hydrologic cycle and energy flow are stable with the deep rooted shrubs, forbs and grasses present maintaining these ecological processes.

The Worthington Mountain Range along the allotment's western boundary and the Golden Gate Range along the allotment's eastern boundary are predominately pinyon and juniper woodlands. Most of the interior of the allotment consists of sagebrush shrub communities. The north central portion of the allotment is mostly salt desert shrub communities. (Appendix II, Figure 9)

Sagebrush Shrub
At key area WM-02, in a black sagebrush community, there is lack of herbaceous understory and a high percentage of shrubs that are negatively impacting ecological processes. Based on analysis done for the other two allotments this is a trend that is occurring throughout this region. This site lacks native perennial grasses that would provide additional inputs of organic matter for soil biota. Although the shrubs are contributing to the soil biota and nutrient cycling is occurring in the soil, a more diverse composition of vegetation that included perennial grasses would increase nutrient cycling and influence soil development.

Salt Desert Shrub
Study Site 1, located within a winterfat community, demonstrated a lack of grasses, but the winterfat shrubs were vigorous with new leader growth. There is a minimal amount of Russian thistle present in the winterfat community, but currently winterfat densities do not appear to be impacted by this invasive plant.

Key forage plant utilization method (KFPM) was used to collect end of the growing season utilization data at the two sites. In November of 2008 there was no use of winterfat and slight use of the key forage species in the black sagebrush community. The season of use in this allotment is winter to early spring. Use Pattern Mapping collected in 2008 following spring grazing by sheep indicated light to slight use during the critical

spring growth period (Appendix B, Map 13). Due to low utilization and rest during part of the critical spring growth period livestock are not considered a significant causal factor in not meeting Standard 2. Precipitation levels (see Appendix B, Table 7-1) over the last few years and/or the lack of a fire disturbance cycle may be preventing the sagebrush communities from maintaining a higher composition of grasses

RIPARIAN: There are four springs within the Worthington Mountain Allotment. Neither the unnamed spring located in the northwest portion of the allotment that is inaccessible to livestock or Modes Spring, which is developed and does not meet the lentic area definition, were accessed. Although the two other springs are developed they still meet the definition for lentic riparian.

Stink Bug Spring was rated proper functioning condition and has adequate riparian vegetation present. No visible water was observed at Sharp Spring, so it was rated nonfunctional. However, there is adequate riparian vegetation present for water retention within the hydric soils at this site. The riparian portion of Standard 2 is being achieved due to adequate riparian vegetation at both springs.

Standard 3. Habitat and Biota:
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.

Batterman Wash Allotment Standard 3 Review
Determination:
□ Achieving the Standard
X Not Achieving the Standard, but making significant progress towards
□ Not Achieving the Standard, not making significant progress toward standard

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

Rangeland monitoring (including professional observations, line intercept studies, frequency studies and key forage plant utilization) show habitat conditions throughout a large portion of the allotment are not exhibiting a healthy and productive plant community with suitable habitat for wildlife. The same problems identified in Standard 2 indicate that plant composition is not appropriate to the ecological sites. Both the key area in the winterfat community and the key area in the black sagebrush community have demonstrated an increase of invasive nonnative species, which does not provide the desired type of cover or forage for wildlife. The ratio of perennial grasses to shrubs is not suitable to provide the proper ecological elements of cover and forage needed by many wildlife species, particularly the high profile BLM Sensitive Species of greater sage-grouse (*Centrocercus urophasianus*) and pygmy rabbit (*Brachylagus idahoensis*). Batterman Spring is providing adequate water, cover, and forage for wildlife.

No threatened or endangered species have been identified in this allotment so no specific habitat conditions are needed to meet a specified life cycle requirement. There is one plant species, White River catseye (*Cryptantha welshii*), that occurs within the allotment (Appendix II, Figure 3). White River catseye is a species of concern for U.S. Fish and Wildlife Service and a Special Status Species for BLM. Located in "dry, open, sparsely vegetated outcrops", White River catseye "appears to tolerate or even increase with transient disturbances within its habitat, such as animal trampling and roadside maintenance (Nevada Natural Heritage Program 2007)". Based on the habitat requirements of White River catseye, livestock are not likely to negatively affect any extant populations within the allotment, and may actually have a positive impact on its environment.

Issues identified in Standard 2 for not meeting the Standard may also be contributing to not meeting Standard 3. Utilization was moderate or less in 2008 on key forage species and this allotment has been rested from livestock grazing from late spring to early fall. Livestock are grazed in this allotment during the critical spring growing period through a deferred grazing system that uses water to rotate use. It is also stipulated that livestock not graze winterfat bottomland after April 1st. This grazing system allows the key forage vegetation to complete the phenological cycle on alternating years. Because of the rotation system livestock are not a significant contributing factor to current conditions.

West Timber Mountain Allotment Standard 3 Review

Determination:

□ Achieving the Standard

□ Not Achieving the Standard, but making significant progress towards

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

Causal Factors

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

Conclusion: Not achieving the Standard, not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Rangeland monitoring and professional observations show habitat conditions throughout the allotment are not exhibiting a healthy and productive plant community with suitable habitat for wildlife. The same problems identified in Standard 2 also indicate that plant composition is not appropriate to the ecological site for the black sagebrush community. Key area WTM-01exhibited an increase in cheatgrass, which does not provide the desired type of cover or forage for wildlife. There was an increase in forbs, but a lack of perennial grasses. Forbs do provide suitable feed for wildlife, but they are not a reliable feed source since they are seasonal and dependent on timing and amount of precipitation. Perennial grasses provide a more reliable feed source. Since there is a lack of grasses in this allotment Standard 3 is not being achieved. No threatened and endangered species have been identified in this allotment so no specific habitat conditions are needed to meet a specified life cycle requirement.

Livestock are not considered a significant causal factor in not meeting Standard 3, because utilization has been slight on key forage species and this allotment has been rested from livestock grazing from late spring to early fall. Livestock are removed during part of the critical spring growing period allowing key forage vegetation to complete the phenological cycle each year and maintain existing forage and cover for wildlife. Timing and amount of precipitation (see Appendix I, Table 7-1) and the lack of natural disturbance in the black sagebrush community may be impacting the amount of live vegetative cover.

Worthington Mountain Allotment Standard 3 Review
Determination:
□ Achieving the Standard
X Not Achieving the Standard, but making significant progress towards
□ Not Achieving the Standard, not making significant progress toward standard

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

Guidelines Conformance:

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

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

Rangeland monitoring data (including professional observations, line intercept studies, and key forage plant utilization) show habitat conditions throughout a large portion of the allotment are not exhibiting a healthy and productive plant community with suitable habitat for wildlife. The same problems identified in Standard 2 also indicate that the ratio of native perennial grass to shrubs is not appropriate in the black sagebrush community, which limits the available food and cover sources for wildlife. Study Site 1, in the winterfat community, is also lacking perennial grasses. No threatened and endangered species have been identified in this allotment so no specific habitat conditions are needed to meet a specified life cycle requirement.

Key forage plant utilization method (KFPM) was used to collect end of the growing season utilization data at the two sites. In November of 2008 there was no use of winterfat and slight use of the key forage species in the black sagebrush community. The season of use in this allotment is winter to early spring. Use Pattern Mapping collected in 2008 following spring grazing by sheep indicated light to slight use during the critical spring growth period (Appendix B, Map 13). Due to low utilization and rest during part of the critical spring growth period livestock are not considered a significant causal factor in not meeting Standard 2. Precipitation levels (see Appendix B, Table 7-1) over the last few years and/or the lack of a fire disturbance cycle may be preventing the sagebrush communities from maintaining a higher composition of grasses

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

Batterman Wash Allotment

Standard 1. Soils	Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.
Standard 2. Ecosystem Components	Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.
Standard #3: Habitat and	Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the

Biota	Standard, failure to meet the standard is related to other issues or conditions.

West Timber Mountain Allotment

Standard 1. Soils	Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.
Standard 2. Ecosystem Components	Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.
Standard #3: Habitat and Biota	Not achieving the Standard, not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Worthington Mountain Allotment

Standard 1. Soils	Achieving the Standard.
Standard 2. Ecosystem Components	Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.
Standard #3: Habitat and Biota	Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

Guideline Conformance Review and Summary

Grazing for all three allotments is in conformance with all applicable Guidelines as provided in the Mojave-Southern Great Basin Standards and Guidelines. Based on a review of the monitoring data presented in this determination, current livestock grazing management practices in these allotments are in conformance with the Guidelines for Livestock Grazing Management. The permittee has been and continues to proactively adjust grazing based on available forage. Range improvement projects such as completion of the Batterman Spring enclosure fence, the Worthington Mountain mowing

project, and extending the Sharp Spring pipeline have improved livestock management within these allotments and helped these allotments to progress toward achievement of the Mojave-Southern Great Basin Standards.

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

Discussion:
Most of the terms and conditions of the Batterman Wash FMUD and the Seaman FMUD are still pertinent based on this determination and are included in Part 4. Recommendations. The Final Multiple Use Decision for Batterman Wash Allotment set allowable use levels at 45% on winterfat, black sagebrush and fourwing saltbush, and 55% on Indian ricegrass. The Seaman Final Multiple Use Decision for West Timber Mountain Allotment set allowable use levels at 45% for black sagebrush and 40% utilization on Indian ricegrass by 5/31 and 55% yearlong. It is recommended to retain most of these terms and conditions with no adjustments, including the utilization objectives previously set for the Batterman Wash Allotment and West Timber Mountain Allotment. All three of these allotments are part of the permittee's grazing rotation system. This grazing rotation system allows for these allotments to be rested from late spring until late fall. Setting maximum utilization levels and continuing with the current rest period allows for desirable key herbaceous and shrub species to develop roots to improve carbohydrate storage for vigor and reproduction, as well as providing for improved habitat for wildlife. These recommendations are based on the findings of this determination.

No utilization objectives have previously been set for the Worthington Mountain Allotment. It is recommended to establish maximum utilization on key forage species that are the same as Batterman Wash Allotment. This would continue to allow desirable key herbaceous species to develop above ground biomass for protection of soils, to contribute to litter cover, and to develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

Other recommended change would be to allow dual use on the West Timber Mountain Allotment. The West Timber Mountain Allotment is a small allotment and John Uhalde & Co has requested that this allotment have greater flexibility by permitting dual use of cattle and sheep. This permittee has a long record of working closely with BLM and has adapted his operation to progress toward sustainable rangelands. This change to dual use would be reasonable based on the key forage species available in this allotment. See Appendix B for calculations to redistribute Animal Unit Months (AUMs) by livestock species in West Timber Mountain Allotment. For sheep grazing the period of use is recommended to remain from 12/15 to 04/15, but the period of use for cattle grazing would be 09/01-03/31 shortening the period of use during the critical spring growing period.

John Uhalde & Co. uses this grazing permit as part of their southern operation for (winter) grazing from late fall to early spring for both sheep and cattle. The permittee trails sheep south in the fall and moves sheep into Batterman Wash Allotment. The permittee uses all of the allotments for sheep grazing and rotates use through herding. The permittee can trail north in the spring using the same trail, but sometimes transports the sheep herd to their northern allotments by truck. The permittee transports their cattle herd south by truck and rotates use on Batterman Wash Allotment and Worthington Mountain Allotment using water to control and rotate use. In the spring cattle are transported back to the northern allotments by truck.

The term "southern permit" is used only as a reference to help clarify which term permit is being renewed with regard to this permittee. Since this permittee also holds a separate grazing permit for allotments in the northern portion of the Ely BLM District, the southern permit is only grazed from late fall to mid spring. The term "southern permit(s)" will not be included on the actual permit, since the permit numbers identify this differentiation.

Recommendations: Active AUMs currently permitted for Batterman Wash Allotment, West Timber Mountain Allotment and the Worthington Mountain Allotment should remain at 2,093 AUMs, 735 AUMs, and 5,641 AUMs, respectively. No AUMs should be suspended based on this determination. See Table 4-1. Recommended Permitted Use.

Table 4-1 Recommended Permitted Use

Allotment	Livestock Number & Kind	Period of Use	*Active (AUMs)
Batterman Wash	887 Sheep	12/01-04/15	793
	243 Cattle	11/15-03/31	1095
	80 Cattle	04/01-06/15	200
**West Timber Mountain – Sheep Use Only	822 Sheep	12/01-04/15	736
**West Timber Mountain – Dual Use Only	265 Sheep	12/01-04/15	240
	110 Cattle	11/15-03/31	495
Worthington Mountain	695 Cattle	01/13-05/31	3176
	3200 Sheep	12/15-04/10	2462

* AUMs may differ from Active Use due to a rounding difference with the number of livestock and the period of use.
** West Timber Mountain Allotment would only have sheep use or dual use authorized annually, not both.

Recommendations include continuing all desirable livestock management practices currently being implemented for these allotments. Continue rangeland monitoring of these allotments for livestock compliance with proper allowable use levels.

Recommendations that should be considered for inclusion in the permittee's terms and conditions:

Batterman Wash Allotment

1. Maintain maximum allowable use levels as follows:

- **Perennial grasses: not to exceed 55% of 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) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- **Perennial shrubs and half-shrubs: 45% use on current year's growth.**
  This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

2. Livestock would be moved to another authorized pasture or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives. Any deviation in livestock movement would require authorization from the authorized officer.

3. Continue terms and conditions identified for this allotment in the 1990 Batterman Wash Final Multiple Use Decision (FMUD) including:

a) Grazing allowed within the Batterman Spring enclosure every three years. Timing, duration, kind and number of livestock would be coordinated with the BLM and permittee. Authorization of this use would be allowed when consistent with multiple-use objectives.

West Timber Mountain Allotment

1. Maintain maximum allowable use levels as follows:

- **Perennial grasses: not to exceed 40% utilization before 5/31, and not to exceed 55% utilization yearlong on 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) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- **Perennial shrubs and half-shrubs: 45% use on current year's growth.**
  This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

2. Livestock would be moved to another authorized pasture or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives. Any deviation in livestock movement would require authorization from the authorized officer.

3. Continue terms and conditions identified for this allotment in the 1996 Seaman Final Multiple Use Decision (FMUD) including:

b) Sheep use during the spring would be rotated between South Coal Valley, Murphy Gap, and Worthington Mountain Allotments so that lambing does not occur on any one allotment more than every third year. (Please note that West Timber Mountain Allotment may be removed from this rotation due to a change in species and operational needs of the permittee, this still incorporates three allotments as part of the rotation).

c) Prior approval for dual use (cattle/sheep) would be required by the authorized officer. Cattle and sheep use levels would be in accordance with Table 4-1. Allowable use levels would apply for dual use.

Worthington Mountain Allotment

1. Establish maximum allowable use levels as follows:

- **Perennial grasses: not to exceed 55% of 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) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- **Perennial shrubs and half-shrubs: 45% use on current year's growth.**
  This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

2. Livestock would be moved to another authorized pasture or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives. Any deviation in livestock movement would require authorization from the authorized officer.

3. Continue terms and conditions identified for this allotment in the 1996 Seaman Final Multiple Use Decision (FMUD) including:

d) Sheep use during the spring would be rotated between South Coal Valley, Murphy Gap, and Worthington Mountain Allotments so that lambing does not occur on any one allotment more than every third year. (Please note that West Timber Mountain Allotment may be removed from this rotation due to a change in species and operational needs of the permittee, this still incorporates three allotments as part of the rotation).

e)

Terms and Conditions that would be common to all three allotments:

Salt and/or mineral supplements for livestock should be located no closer than ½ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock. Supplements are to be placed ½ mile from existing waters.

Wildlife escape ramps would be installed and maintained by the permittee at each trough used on the allotment (permanent or temporary).

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Prepared by:

Mindy Seal, Natural Resource Specialist	Date

Reviewed by:

Bonnie Million Noxious and invasive non-native species	Date
Ruth Thompson Wild horses and burros	Date
Cameron Collins Wildlife/migratory birds/special status animals/plants	Date
Gina Jones Ecology	Date
Mark D'Aversa Soil/Air/Water	Date

I concur:

Chris Mayer Supervisory Rangeland Management Specialist Egan Field Office	Date

Victoria Barr Field Manager Caliente Field Office	Date
Jeffrey Weeks Field Manager Egan Field Office	Date

APPENDIX B, SECTION 1 – DATA ANALYSIS

1. Review of Previous Evaluations and Data

A Final Multiple Use Decision (FMUD) for the Batterman Wash Allotment was issued on July 13, 1990. A follow up three year evaluation was completed on September 29, 1993. This document was reviewed during this analysis along with current data regarding the Batterman Wash Allotment.

A Final Multiple Use Decision (FMUD) was issued on October 18, 1996 for those "Allotments Located within the Seaman Herd Management Evaluation Area" (Seaman FMUD) which included West Timber Mountain Allotment. This document was reviewed during the analysis along with current data.

An evaluation summary was completed in 1991 for Worthington Mountain Allotment. Also, although the Seaman FMUD did not evaluate the Worthington Mountain Allotment, it did make changes to its boundaries and livestock management practices so it would be consistent with neighboring allotments that were evaluated. These documents were reviewed during the analysis along with current data.

2. Key Areas, Location, Vegetative Cover and Composition

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.

The key areas on all three allotments provide a good representation of grazing management within these allotments, except for the Worthington Mountain key area WM-01. With the past development of the Sharp Spring pipeline and associated water sources, Study Site 1 provides a better representation of livestock grazing within the winterfat vegetation community than WM-01. See Appendix II, Figure 10 for a map depicting the location of WM-01 and the newly established Study Site 1.

Ecological sites are interpretive units into which landscapes of native vegetation are separated for study, evaluation, and management. An ecological site, as defined for rangeland, 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). The ecological site of a key area is determined based on several factors including soil mapping unit, topography, and plant community.

The Line Intercept Cover Study is a commonly used method of estimating the relative percent live foliar cover of a range site by plant class (tree, shrub, grass, forb, or annual). The method also estimates the percent live foliar cover by plant species. The results are then compared to the appropriate cover for each range site as indicated by the Natural Resources Conservation Service

(NRCS) ecological site descriptions (ESD). Results are also compared to what is known about healthy rangelands in general.

Table 2-1. Key Areas Summary Table For All Three Allotments

Allotment	Key Area	Year Established	Ecological Site	Cover in 2008 (%)	*Potential Cover (%)
Batterman	BW-01	1984	028BY013NV	10.19%	10% to 20%
Wash	BW-02	1984	029XY008NV	17.30%	20% to 30%
West Timber Mountain	WTM-01	1992	029XY008NV	11.21%	20% to 30%
Worthington Mountain	WM-01	before 1988	029XY020NV	Not assessed	10% to 20%
	Study Site 1	2008	029XY020NV	11%	10% to 20%
	WM-02	before 1988	029XY008NV	22%	20% to 30%

*Based on ecological site descriptions.

Listed in Tables 2-2 through 2-6 are summarized descriptions of the ecological sites specific to each of the three allotments where key areas or study sites have been established and monitored with the line intercept cover study method. Included in this list are the associated soil description, precipitation zone, and the plant community composition and cover. Data collected for each key area regarding vegetative cover and vegetative composition is summarized within these tables.

Batterman Wash Allotment

Recent data collected at the two key areas demonstrates that cover is being met at key area BW-01, a winterfat plant community; but it is below the recommendations of the ecological site description at key area BW-02, a black sagebrush plant community (see Tables 2-1 and 2-2). Also both plant communities have a high ratio of shrubs compared to grasses based on cover. Frequency data was also collected for this allotment and provided additional information of changes in trend (see section 3. Frequency Trend Studies).

West Timber Mountain Allotment

Data collected in 2008 at key area WTM-01 demonstrates that cover is below the ecological site description for this black sagebrush plant community (see Table 2-4). For the West Timber Mountain Allotment additional monitoring to determine ecological status was completed. This included double weight sampling to determine dry weight by species and percent composition by dry weight. Ecological status is use-independent and is defined as the present state of the vegetation and soil protection of an ecological site in relation to the potential natural community for that site. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in the present plant community resemble that of the potential natural community. Air dry weight is the unit of measure used to compare the percent composition and production of the present plant community with that of the potential natural community (PNC). The four seral stages that relate to the natural community are:

Percent of Potential Natural Community by Air Dry Weight	Seral Stage Classes
76 – 100	potential natural community (climax)
51 – 75	late seral
26 - 50	mid seral
0 – 25	early seral

Data collected using double weight sampling at WTM-01 showed a high percentage of shrubs to grasses. The seral stage was determined to be at the beginning of late seral (53%). Similar data collected in 1997 demonstrated a similar plant community structure with a high shrub component and a late seral stage (56%).

Worthington Mountain Allotment

Recent data collected at the key area WM-02 and Study Site 1 demonstrate that cover is being met at both sites (see Tables 2-5 and 2-6). Both sites have a high ratio of shrubs to grasses based on cover.

Table 2-2. Batterman Wash Allotment - Key Area BW-01
Vegetative Cover Data

Summarized Ecological Site Description for 028BY013NV:
Silty 8-10" P.Z. (precipitation zone)
Soils are deep to very deep and well drained. ***Approximate ground cover (basal and crown) is 10–20 percent.*** Plant community dominated by winter fat and Indian ricegrass. ***Potential vegetative composition is about 30% grasses, 5% forbs, and 65% shrubs.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
BW-01	See Appendix II, Figure 4	6/2008	10.2%	Grasses <1% Forbs <1% Shrubs 98%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
Indian ricegrass	<1	<1
cryptantha	<1	<1
bud sagebrush	4	36
winterfat	6	61
fourwing saltbush	<1	<1
The line intercept method includes litter cover. Litter cover is 3.1%.		
Other plants present in the area but not encountered in transect: squirreltail, cheatgrass, buckwheat, Russian thistle, desert parsley, mustard weed.		

Table 2-3. Batterman Wash Allotment - Key Area BW-02
Vegetative Cover Data

Summarized Ecological Site Description for 029XY008NV:
Shallow Calcareous Loam 8-12" P.Z. (precipitation zone)
Soils are shallow and have restrictive layer within the main rooting depth. The soils are modified by gravels, cobbles or stones on the surface. Available water capacity is low to moderate and runoff is slow to rapid depending on slope. ***Approximate ground cover (basal and crown) is 20–30 percent***. Plant community dominated by black sagebrush, Indian ricegrass and needle and thread. ***Potential vegetative composition is about 50% grasses, 5% forbs, and 45% shrubs and trees.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
BW-02	See Appendix II, Figure 4	6/2008	17.3%	Grasses 1% Forbs <4% Shrubs 94% Nonnative invasive 2%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
galleta	<1	1
desert globemallow	<1	2
onion	<1	<1
longleaf phlox	<1	1
Douglas rabbitbrush	<1	5
black sagebrush	12	70
fourwing saltbush	<1	5
Wyoming sagebrush	2	14
mustard weed	<1*	2

The line intercept method includes litter cover. Litter cover is 12.7%.

Other plants present in the area but not encountered in the transect: Indian ricegrass, cheatgrass, bottlebrush squirreltail, needle and thread, evening primrose, fleabane, sego lily, lobeleaf groundsel, roughseed cryptantha, paintbrush, milkvetch, pinyon groundsmoke, buckwheat, desert parsley, larkspur, Russian thistle, winter fat, budsage, and ephedra.

*provided for information purposes, not factored into total percent cover basal/crown

Table 2-4. West Timber Mountain Allotment - Key Area WTM-01
Vegetative Cover and Ecological Condition Data

Summarized Ecological Site Description for 029XY008NV:
Shallow Calcareous Loam 8-12" P.Z. (precipitation zone)
Soils are shallow and have restrictive layer within the main rooting depth. The soils are modified by gravels, cobbles or stones on the surface. Available water capacity is low to moderate and runoff is slow to rapid depending on slope. ***Approximate ground cover (basal and crown) is 20–30 percent***. Plant community dominated by black sagebrush, Indian ricegrass and needleandthread. ***Potential vegetative composition is about 50% grasses, 5% forbs, and 45% shrubs and trees.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Weight By Groups	1997	2008
WTM-01	See Appendix II, Figure 7	6/1997	not collected	Grasses	15%	<1%
				Forbs	4%	11%
		6/2008	11.2%	Shrubs	77%	77%
				Nonnative invasives	4%	11%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/ Crown 2008	Percent Composition Based on Weight 1997	2008	ESD Recommended Percent Composition based on Weight
Indian ricegrass	<1	1	<1	20 - 30
bottlebrush squirreltail	<1	5	<1	3
needle and thread	<1			
cheatgrass	[redacted]	2	11	This plant is not native and is not part of the ESD recommendations.
galleta	1	9		2 - 8
aster	[redacted]	2		2
globemallow	<1		4	2
erigeron	<1		7	2
longleaf phlox	<1	2		2
tall tumblemustard	[redacted]	2		This plant is not native and is not part of the ESD recommendations.
budsage	<1			
black sagebrush	6	72	74	30 – 45
fourwing saltbush	<1		3	Trace - 5
winterfat	<1	5		Trace - 5
spineless horsebrush	<1			
cholla cactus	<1			

The line intercept method includes litter cover. Litter cover in 2008 was 11.0%.

Seral stage in 1997 was 56% and in 2008 was 53%, both are at the beginning of late seral. Trend is not apparent.

Table 2-5. Worthington Mountain Allotment - Key Area WM-02
Vegetative Cover Data

Summarized Ecological Site Description for 029XY008NV:
Shallow Calcareous Loam 8-12" P.Z. (precipitation zone)
Soils are shallow and have restrictive layer within the main rooting depth. The soils are modified by gravels, cobbles or stones on the surface. Available water capacity is low to moderate and runoff is slow to rapid depending on slope. ***Approximate ground cover (basal and crown) is 20–30 percent.*** Plant community dominated by black sagebrush, Indian ricegrass and needleandthread. ***Potential vegetative composition is about 50% grasses, 5% forbs, and 45% shrubs and trees***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
WM-02	See Appendix II, Figure 10	11/14/08	22.3%	Grasses 5% Forbs <1% Shrubs 94%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
galleta	1	5
Indian ricegrass	<1	<1
phlox	<1	<1
black sagebrush	21	94
The line intercept method includes litter cover. Litter cover is 1.9%.		
Other plants present in the area but not encountered in transect: bottlebrush squirreltail, needleandthread, ephedra, and Wyoming sagebrush.		

Table 2-6. Worthington Mountain Allotment – Study Site 1
Vegetative Cover Data

Summarized Ecological Site Description for 029XY020NV:
Silty 5-8" P.Z. (precipitation zone)
Soils are very deep and moderately well to well drained. The soil surface layer will normally develop a vesicular crust, inhibiting water infiltration and seedling emergence. Permeability is moderate to slow with moderate to high available water holding capacity. ***Approximate ground cover (basal and crown) is 10–20 percent.*** Plant community dominated by black sagebrush, Indian ricegrass and needle and thread. ***Potential vegetative composition is about 25% grasses, 5% forbs, and 70% shrubs.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups

SS-1	See Appendix II, Figure 10	11/14/08	10.6%	Grasses 0% Forbs 0% Shrubs 99% Nonnative invasive 1%

Plant Species Common Name (Plant Symbol)	**Percent Cover Basal/Crown**	**Percent Composition Based on Cover**
winterfat	11	99
Russian thistle	<1*	1
The line intercept method includes litter cover. Litter cover is 8.5%.		
Other plants present in the area but not encountered in transect: fourwing saltbush.		
*provided for information purposes, not factored into total percent cover basal/crown		

3. Frequency Trend Studies – Batterman Wash Allotment

Trend is a rating of direction of change that may be occurring on a site. If the plant community is changing as a result of prolonged grazing, perennial species most sensitive to damage by grazing decrease. This may lead to a relative increase in species of lower forage value of successional stages, or both. Frequency trend studies have been established at both key areas in the Batterman Wash Allotment. The studies key areas BW-1 and BW-02 were read in 1986 and read again in 2008 (22 year difference). Table 3-1 demonstrates summarized data for both key areas. Changes in trend were determined based a 95% confidence interval.

Winterfat Community (BW-01)

Based on the plant community dynamics for ESD 028BY013NV "as ecological condition declines, bottlebrush squirreltail and shadscale increase as winterfat and Indian ricegrass decrease. With further site deterioration, cheatgrass, halogeton and annual mustards invade the interspace areas between shrub species. On heavily disturbed sites, these annual species, particularly halogeton, become dominant."

At BW-01 there was no change in the grass component, an increase in the amount and variety of forbs, and an increase of bud sagebrush and winterfat. There was a decrease in the frequency of cheatgrass and an increase in the frequency of Russian thistle. The increase of forbs could be attributed to the timing and amount of precipitation received in 2008. Although there are non native invasives in this winterfat community, their presence has not degraded the native plant community. Based on the plant community dynamics for this site, the increase in winterfat indicates an improving trend over the last 22 years.

Black Sagebrush Community (BW-02)

Based on the plant community dynamics for ESD 029XY008NV "black sagebrush and rabbitbrush increase while Indian ricegrass, needle and thread, and fourwing saltbush decrease with excessive use by cattle or horses. Galleta will initially increase but with continued abusive use, it will also decrease. With excessive use by sheep, black sagebrush and forbs decrease as winterfat and rabbitbrush increase. Rodent activity is typically evidenced by small patches dominated by spiny hopsage. Shadscale is recognized as a seral community occurring following wildfire or other major disturbance to the black sagebrush community (particularly at the lower

elevations of this site's occurrence). Cheatgrass and annual mustards are the species most likely to invade this site. Utah juniper readily increases on this site where it occurs adjacent to juniper woodland areas."

At BW-02, for grass species there was no change in bottlebrush squirreltail and galleta, and an increase in needle and thread and Indian ricegrass. There is also an increase in the number and variety of forbs. The shrub component had an increased frequency in rabbitbrush and no change in the frequency of other shrubs. There was an increase in the frequency of cheatgrass and an annual mustard weed species. The increase in grasses and forbs are a good indicator that the trend may be improving, but due to the increase of invasive nonnative annuals and rabbitbrush it was determined that this site had a downward trend.

Table 3-1

Plant Species Common Name	**% Frequency**		**%Confidence Interval Range**	**decrease/increase from 1986 to 2008 based on 95% confidence interval**
Key Area BW-01	**1986**	**2008**	**P=.95**	
Indian ricegrass	2	2	0-5	none
cheatgrass	16	0*	11-21	decreased
bottlebrush squirreltail	1	0*	0-4	none
Cryptantha spp.	0*	28	0-3	increased
buckwheat	0*	11	0-3	increased
Russian thistle	0*	30	0-3	increased
mustard	0*	2	0-3	none
stickseed	15		10-20	decreased
bud sagebrush	12	18	7-17	increased
winterfat	38	60	31-45	increased
Key Area BW-02	**1986**	**2008**		
cheatgrass	50	70	43-57	increased
bottlebrush squirreltail	2	0*	0-5	none
galleta	32	28	26-38	none
needle and thread	4	8	1-7	increased
Indian ricegrass	3	7	0-6	increased
desert globemallow	<1	3	0-3	none
Cryptantha spp.	4	0*	1-7	none
milkvetch	<1	2	0-3	none
paintbrush	0*	2	0-3	none
pinyon groundsmoke	0*	31	0-3	increased
onion	0*	6	0-3	increased
longleaf phlox	0*	15	0-3	increased
winterfat	2	0*	0-5	none

Douglas rabbitbrush	4	17	1-7	increased
black sagebrush	19	14	14-24	none
fourwing saltbush	2	0*	0-5	none
Wyoming sagebrush	0*	3	0-3	none
ephedra	0*	1	0-3	none
mustard weed	0*	53	0-3	increased
*no hits were recorded.				

4. Analysis of Riparian Areas

Batterman Wash Allotment

Two riparian areas occur within the Batterman Wash Allotment, Cherry Creek (lotic) and the Batterman Springs, a complex of 3 springs (lentic). (Appendix II, Figure 4)

Cherry Creek originates on Forest Lands in the Quinn Range. This creek runs through private land and is used for irrigation before it reaches BLM administered public land. The flow is ephemeral and does not flow every year. Due to the ephemeral flow, the portion of Cherry Creek that drains onto BLM administered public land was rated nonfunctional in 1993 by a team assessing proper functioning condition.

The Batterman Spring complex was rated proper functioning condition by a team of specialists in 2008. This riparian area was fenced following the Batterman Wash FMUD recommendations that included allowing livestock grazing every three years. There is a variety of riparian vegetation present and although some upland species occur along the perimeter of the riparian area, none were found within the riparian area.

Figure 4-1. Batterman Spring Complex (Fall 2008)

West Timber Mountain Allotment

No lotic (stream) or lentic (non flowing systems) riparian areas are located within this allotment, so no assessments were done. (Appendix II, Figure 7)

Worthington Mountain Allotment

There are four springs within this allotment (Appendix II, Figure 10). An unnamed spring is located in the northwest portion of the allotment at 6,500' elevation and is inaccessible to livestock. The three other springs are developed. While all three springs are developed, two of the springs maintain some riparian functions and were assessed for proper functioning condition based on the current riparian function (see table below).

Table 4.1 Worthington Mountain Allotment Riparian Areas

Name	**Date Visited**	**PFC Assessment**	**Notes**
unnamed spring	10/31/08	Not assessed	High elevation, predominately pinyon and juniper, not accessible to livestock.
Modes Spring	10/31/08	Not assessed	Fully developed, no riparian characteristics present.
Stink Bug Spring	10/31/08	Proper functioning condition	Developed, some water remains at source. Riparian system is stable.
Sharp	10/31/08	Nonfunctional	Although there is some riparian vegetation

Spring	present, no water was observed at the source due to development so the spring was rated nonfunctional.

5. Licensed Livestock Use

Livestock licensed actual use on all three allotments has varied dependent on growing conditions, available forage, and management objectives of the permittee and the BLM. Table 5-1 includes licensed actual use and percentage of licensed actual use compared to total active AUMs permitted from 1998 to 2007.

Table 5-1. Licensed Actual Use

Allotment Name	Grazing Year	Licensed Actual Use (AUMs)	Total Active AUMS	% Licensed Actual Use of Total Permitted Use
BATTERMAN WASH	1998	1,079	2,093	52%
	1999	379	2,093	18%
	2000	1,797	2,093	86%
	2001	1,551	2,093	74%
	2002	1,716	2,093	82%
	2003	1,800	2,093	86%
	2004	2,605	2,093	124%
	2005	1,103	2,093	53%
	2006	1,560	2,093	75%
	2007	382	2,093	18%
WEST TIMBER MOUNTAIN	1998	356	735	48%
	1999	305	735	41%
	2000	324	735	44%
	2001	173	735	24%
	2003	88	735	12%
	2004	672	735	91%
	2005	340	735	46%
	2006	109	735	15%
	2007	72	735	10%
WORTHINGTON MOUNTAIN	1998	2,796	5,641	50%

1999	997	5,641	18%
2000	2,020	5,641	36%
2001	1,879	5,641	33%
2002	1,508	5,641	27%
2003	1,457	5,641	26%
2004	693	5,641	12%
2005	1,859	5,641	33%

6. Utilization

The following is a summary of the utilization data collected on all three allotments. The Final Multiple Use Decision for Batterman Wash Allotment set allowable use levels at 45% on winterfat, black sagebrush and fourwing saltbush, and 55% on Indian ricegrass. The Seaman Final Multiple Use Decision for West Timber Mountain Allotment set allowable use levels at 45% for black sagebrush and 40% on Indian ricegrass by 5/31 and 55% yearlong. The Worthington Mountain Allotment has not had established maximum utilization on key forage species, however 50% utilization on perennial native grasses allows desirable key herbaceous species to develop above ground biomass for protection of soils, to contribute to litter cover, and to develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

Utilization is the estimation of the proportion of annual production consumed or destroyed by animals (Swanson 2006). Utilization for these allotments is determined by measuring the key forage consumed of current year's growth, and does not differentiate use by livestock and wildlife. 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).

Key forage plant utilization method (KFPM) was used to collect utilization data at the key areas. In 2008, utilization on all three allotments was typically slight, with some moderate utilization of winterfat in the Batterman Wash Allotment and no use of winterfat in the Worthington Mountain Allotment.

Table 6-1. Utilization Summary

Allotment	Date	Key Area	Key Species	Percent Utilization	Utilization Range
Batterman Wash	5/5/08	BW-01	winterfat	46%	moderate
	5/5/08	BW-02	Indian ricegrass	15%	slight
West Timber Mountain	5/28/08	WTM-01	Indian ricegrass	14%	slight
			needle and thread	8%	slight

			winterfat	17%	slight
Worthington Mountain	11/14/08	WM-01	winterfat	0%	No use
	11/14/08	WM-02	galleta	4%	slight
			Indian ricegrass	3%	slight
			black sagebrush	4%	slight

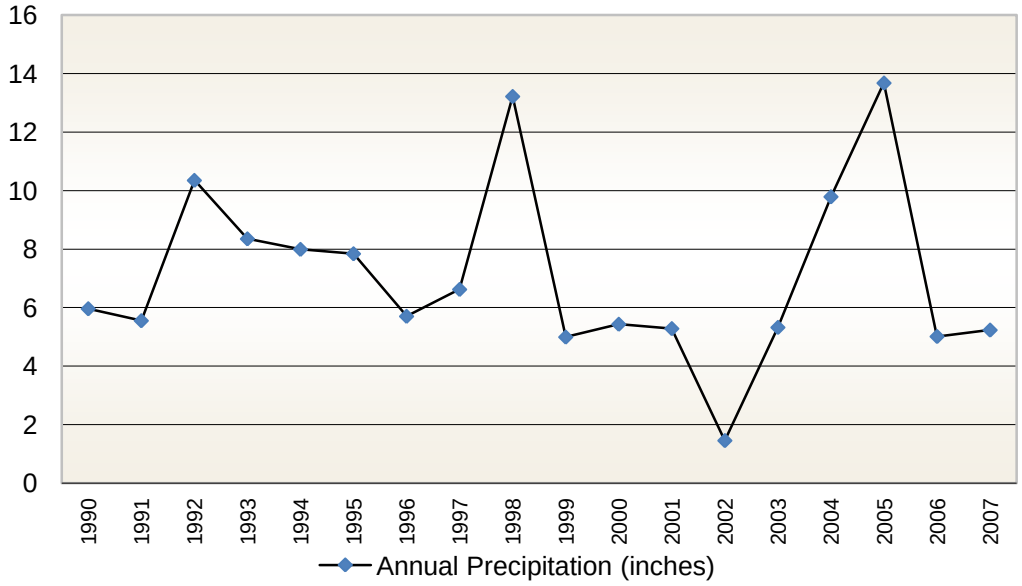
7. Precipitation data

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 for Hiko, Nevada is being used for this assessment. The table below includes annual precipitation data collected since 1990. Figure 7-1 demonstrates the trend of annual precipitation since 1990.

Table 7-1. Annual precipitation for Hiko, Nevada

Year	Annual Precip (inches)	Year	Annual Precip (inches)
1990	5.96	2000	5.43
1991	5.55	2001	5.28
1992	10.35	2002	1.45
1993	8.35	2003	5.32
1994	7.99	2004	9.79
1995	7.84	2005	13.68
1996	5.7	2006	5.01
1997	6.62	2007	5.23
1998	13.22		
1999	4.99		

Figure 7-1. Annual precipitation measured at Hiko, NV, 1990-2007



APPENDIX B, SECTION 2 – MAPS

Figure 3

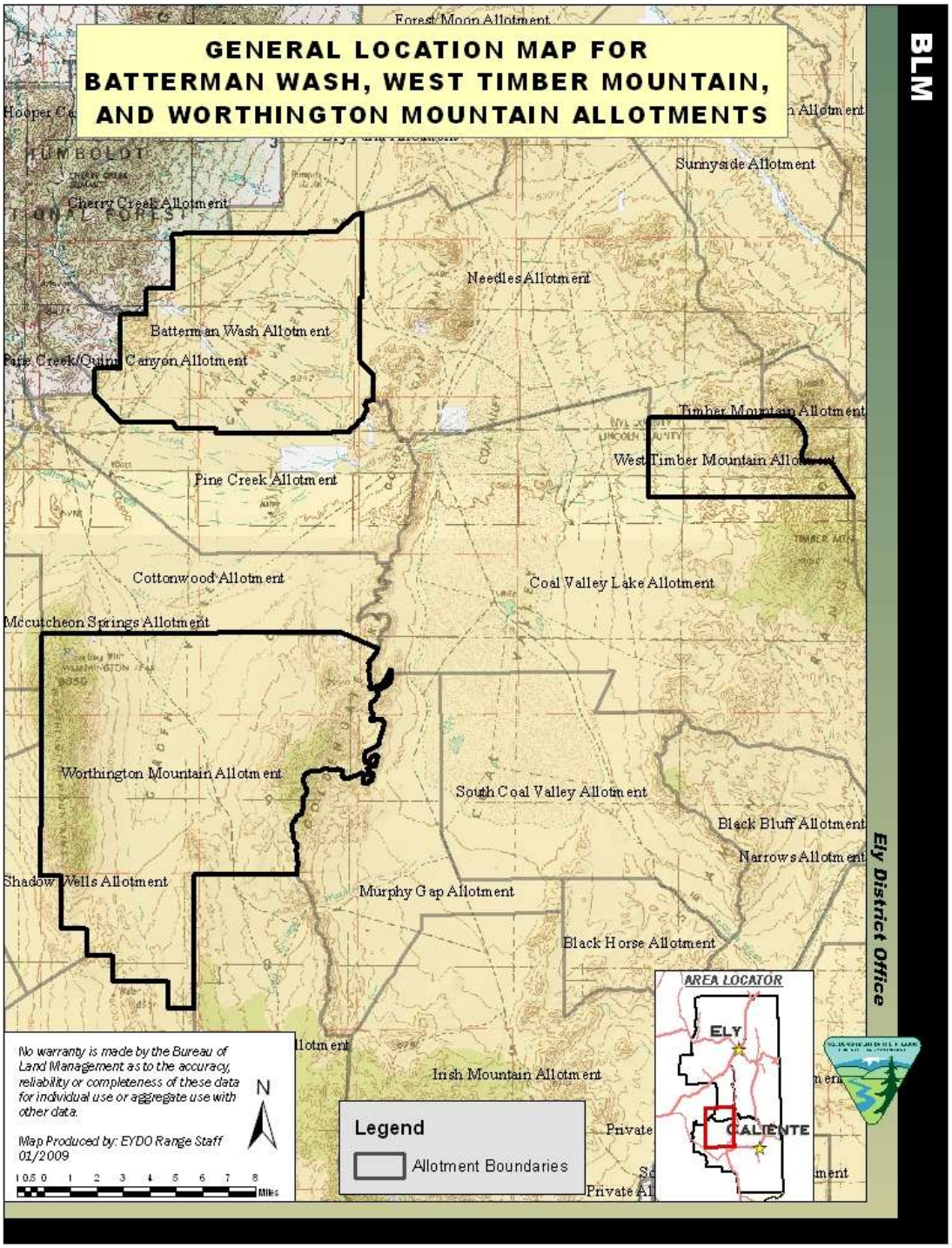


Figure 4

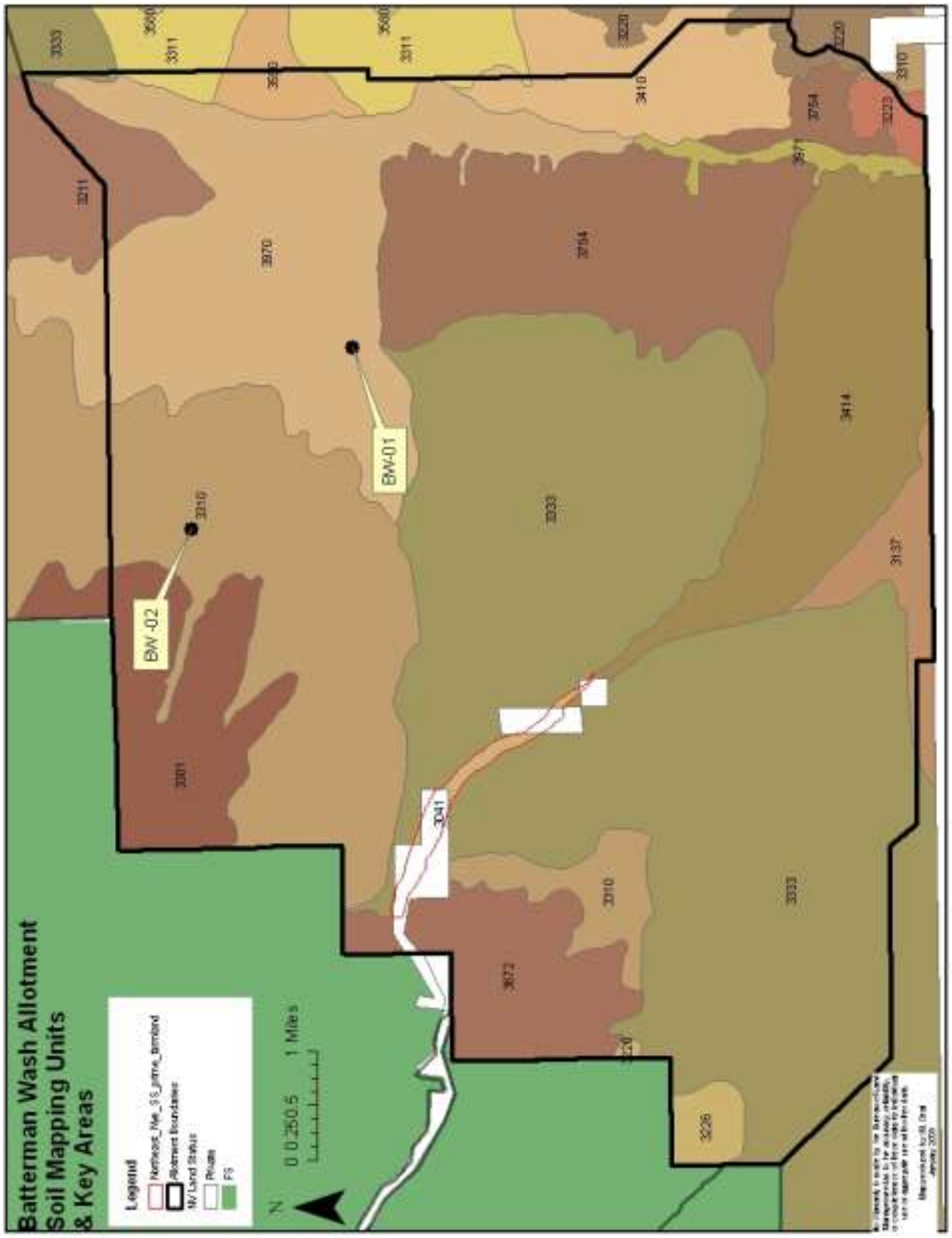

Batterman Wash Allotment
Soil Mapping Units
& Key Areas
Legend
Allotment Boundaries
Private
FS
0 0.25 0.5 1 Miles
N
BW-01
BW-02
3970
3754
3414
3333
3310
3301
3672
3041
3137
3211

Figure 5

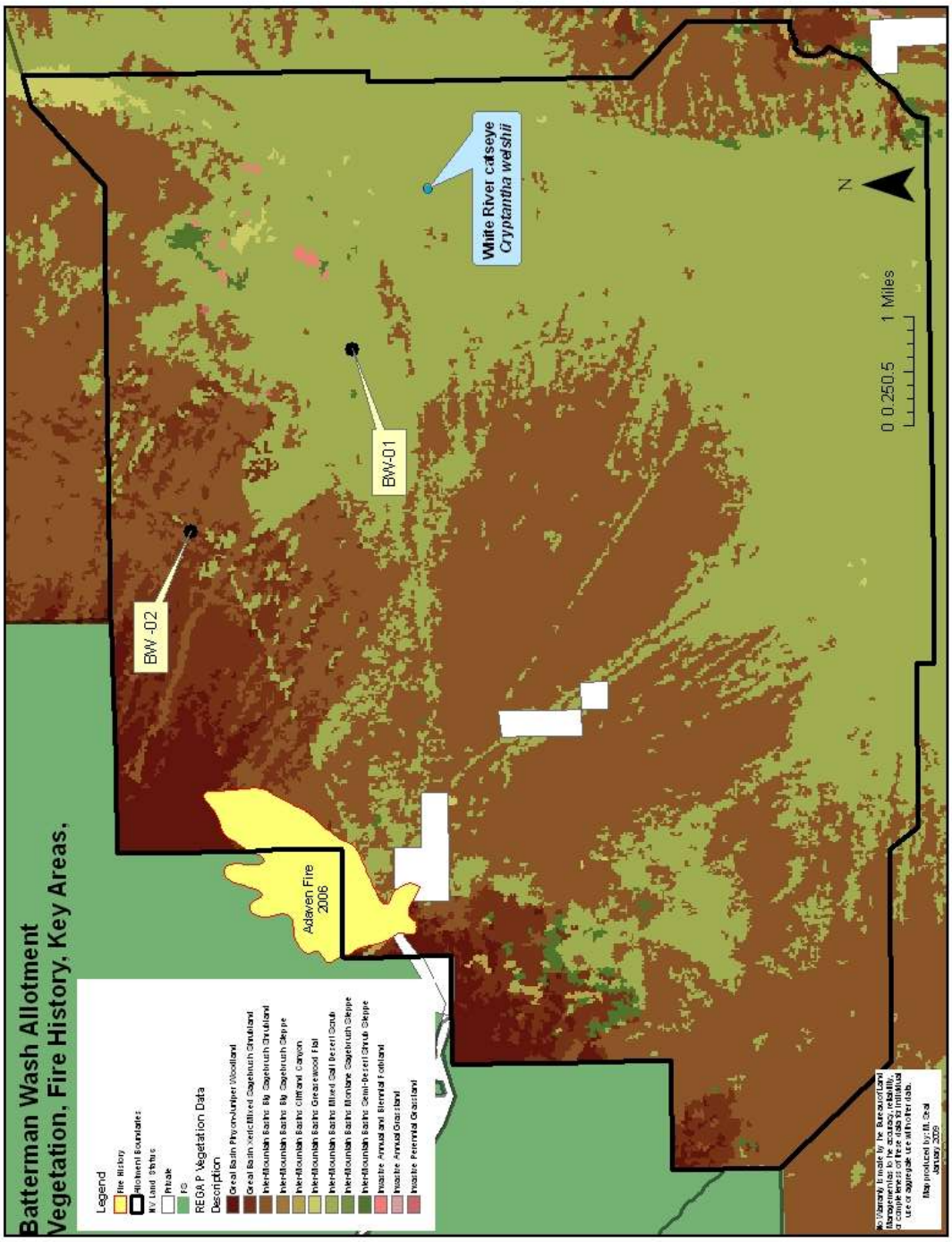

Batterman Wash Allotment
Vegetation, Fire History, Key Areas,
Legend
Fire History
Allotment Boundaries
BV Land Status
Private
FS
REGAP Vegetation Data
Description
Great Basin Pinyon-Juniper Woodland
Great Basin Xeric Mixed Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe
Inter-Mountain Basins Cliffrose Canyon
Inter-Mountain Basins Greasewood Flat
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe
Inter-Mountain Basins Semi-Desert Shrub Steppe
Inactive Annual and Biennial Forbland
Inactive Annual Grassland
Inactive Perennial Grassland
Adaven Fire 2006
BW-01
BW -02
White River catseye
Cryptantha welshii
N
0 0.25 0.5 1 Miles

Figure 6

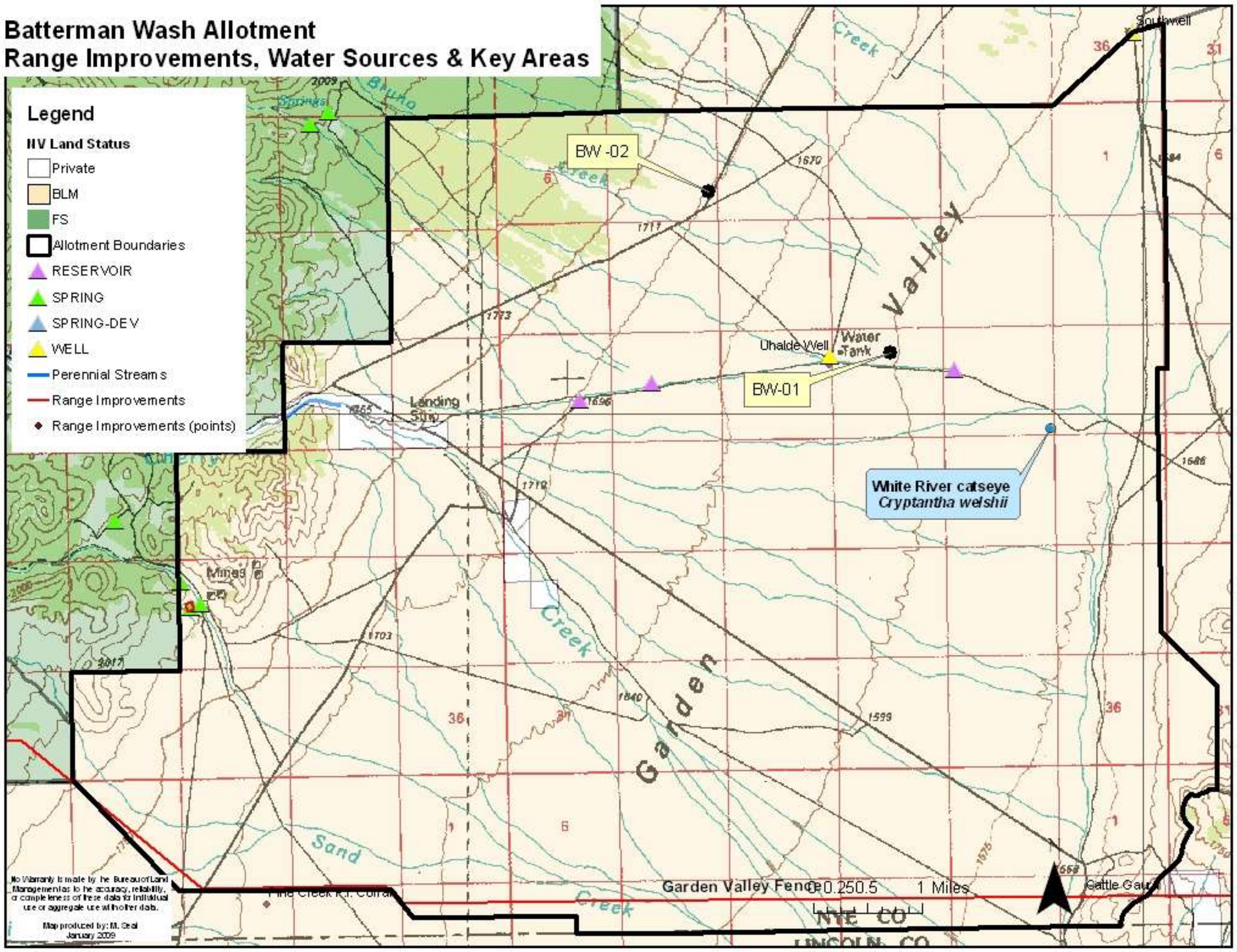

Batterman Wash Allotment
Range Improvements, Water Sources & Key Areas
Legend
NV Land Status
Private
BLM
FS
Allotment Boundaries
RESERVOIR
SPRING
SPRING-DEV
WELL
Perennial Streams
Range Improvements
Range Improvements (points)
BW -02
BW-01
Uhalde Well
Water Tank
Landing Strip
White River catseye
Cryptantha welshii
Valley
Garden
Creek
Sand
Southwell
Cattle Guard
Garden Valley Fence
0 0.25 0.5 1 Miles
NYE CO
LINCOLN CO
Mines
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
Map produced by: M. Seal
January 2009

Figure 7

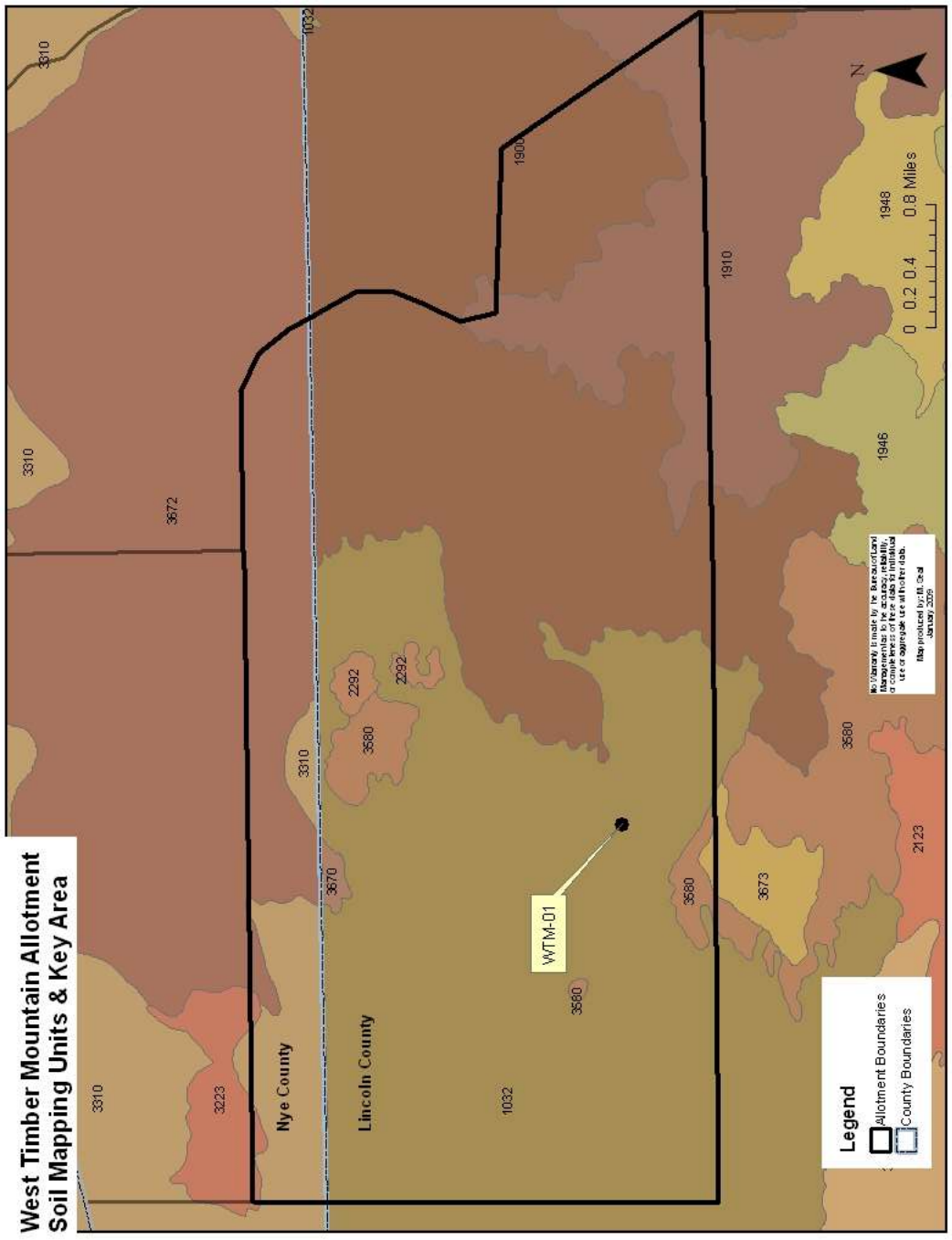

West Timber Mountain Allotment
Soil Mapping Units & Key Area
Nye County
Lincoln County
WTM-01
Legend
Allotment Boundaries
County Boundaries
N
0 0.2 0.4 0.8 Miles
3310
3672
1032
1900
1910
1946
1948
2292
3580
3670
3673
2123
3223

Figure 8

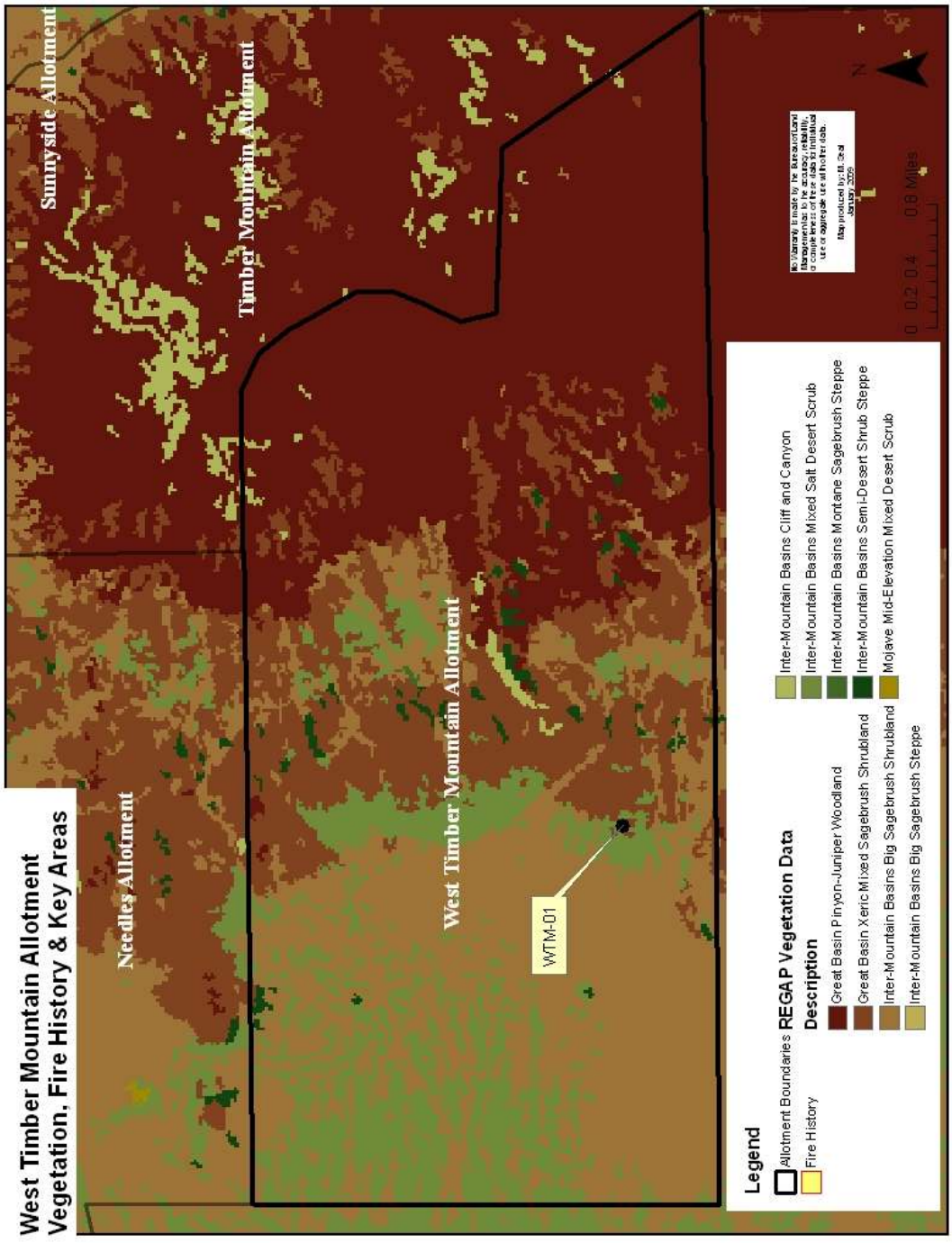

West Timber Mountain Allotment
Vegetation, Fire History & Key Areas
Needles Allotment
Sunnyside Allotment
Timber Mountain Allotment
West Timber Mountain Allotment
WTM-01
Legend
Allotment Boundaries
Fire History
REGAP Vegetation Data
Description
Great Basin Pinyon-Juniper Woodland
Great Basin Xeric Mixed Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe
Inter-Mountain Basins Cliff and Canyon
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe
Inter-Mountain Basins Semi-Desert Shrub Steppe
Mojave Mid-Elevation Mixed Desert Scrub
N
0 0.2 0.4 0.8 Miles

Figure 9

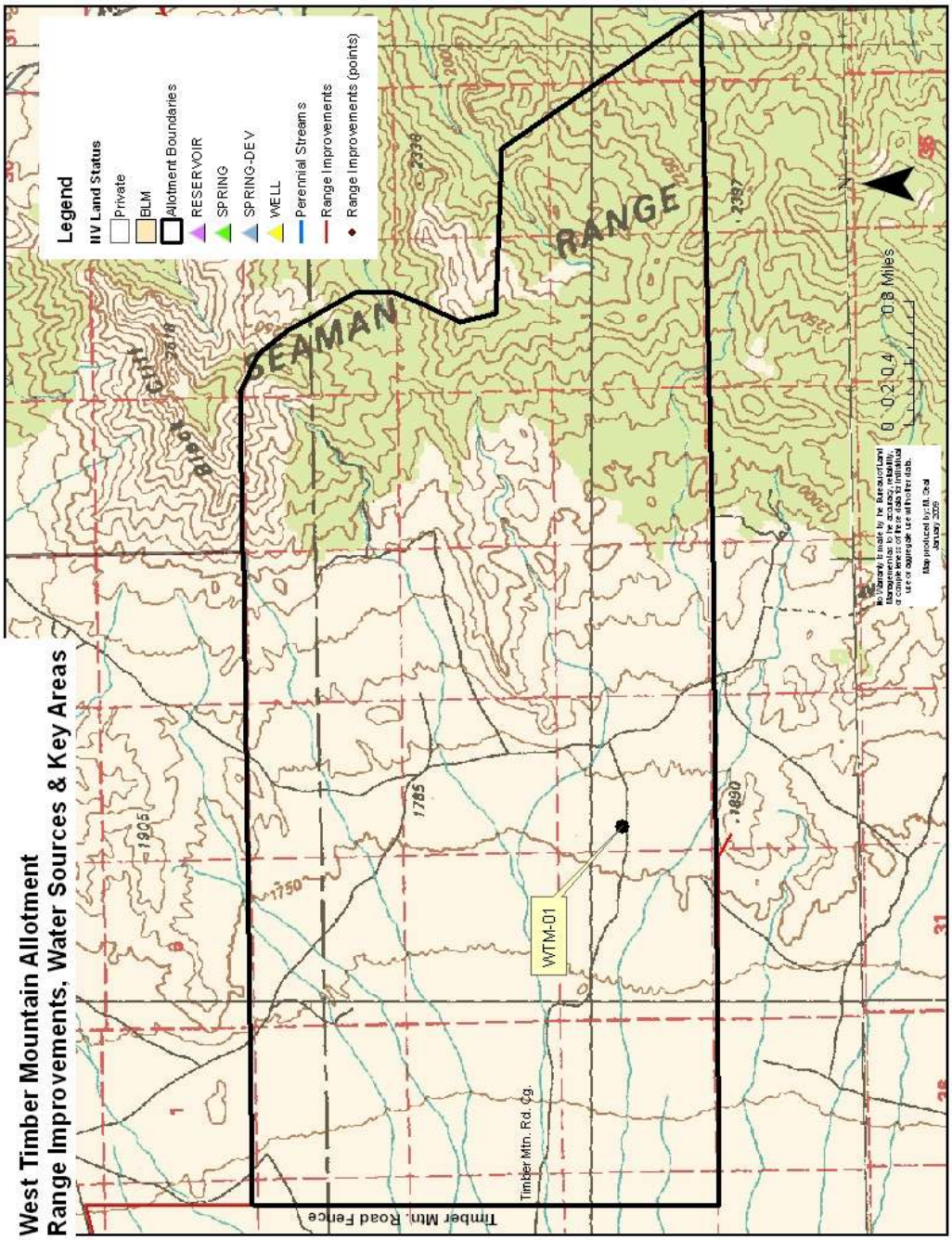

West Timber Mountain Allotment
Range Improvements, Water Sources & Key Areas
Legend
NV Land Status
Private
BLM
Allotment Boundaries
RESERVOIR
SPRING
SPRING-DEV
WELL
Perennial Streams
Range Improvements
Range Improvements (points)
SEAMAN
RANGE
WTM-01
Timber Mtn. Road Fence
Timber Mtn. Rd. Cg.
0 0.2 0.4 0.8 Miles

Figure 10

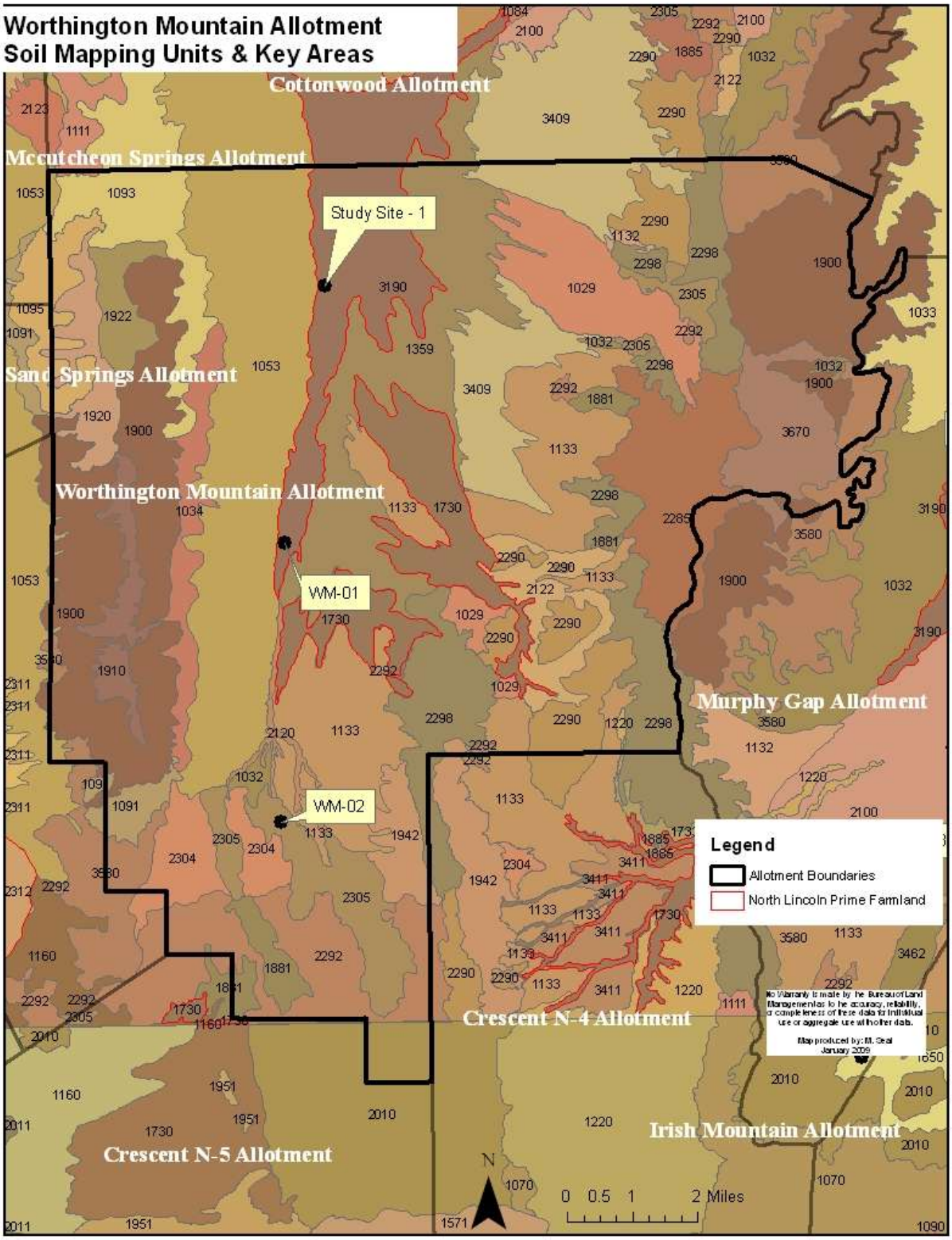

Worthington Mountain Allotment
Soil Mapping Units & Key Areas
Cottonwood Allotment
Mccutcheon Springs Allotment
Sand Springs Allotment
Worthington Mountain Allotment
Murphy Gap Allotment
Crescent N-4 Allotment
Crescent N-5 Allotment
Irish Mountain Allotment
Study Site - 1
WM-01
WM-02
Legend
Allotment Boundaries
North Lincoln Prime Farmland
N
0 0.5 1 2 Miles

Figure 11

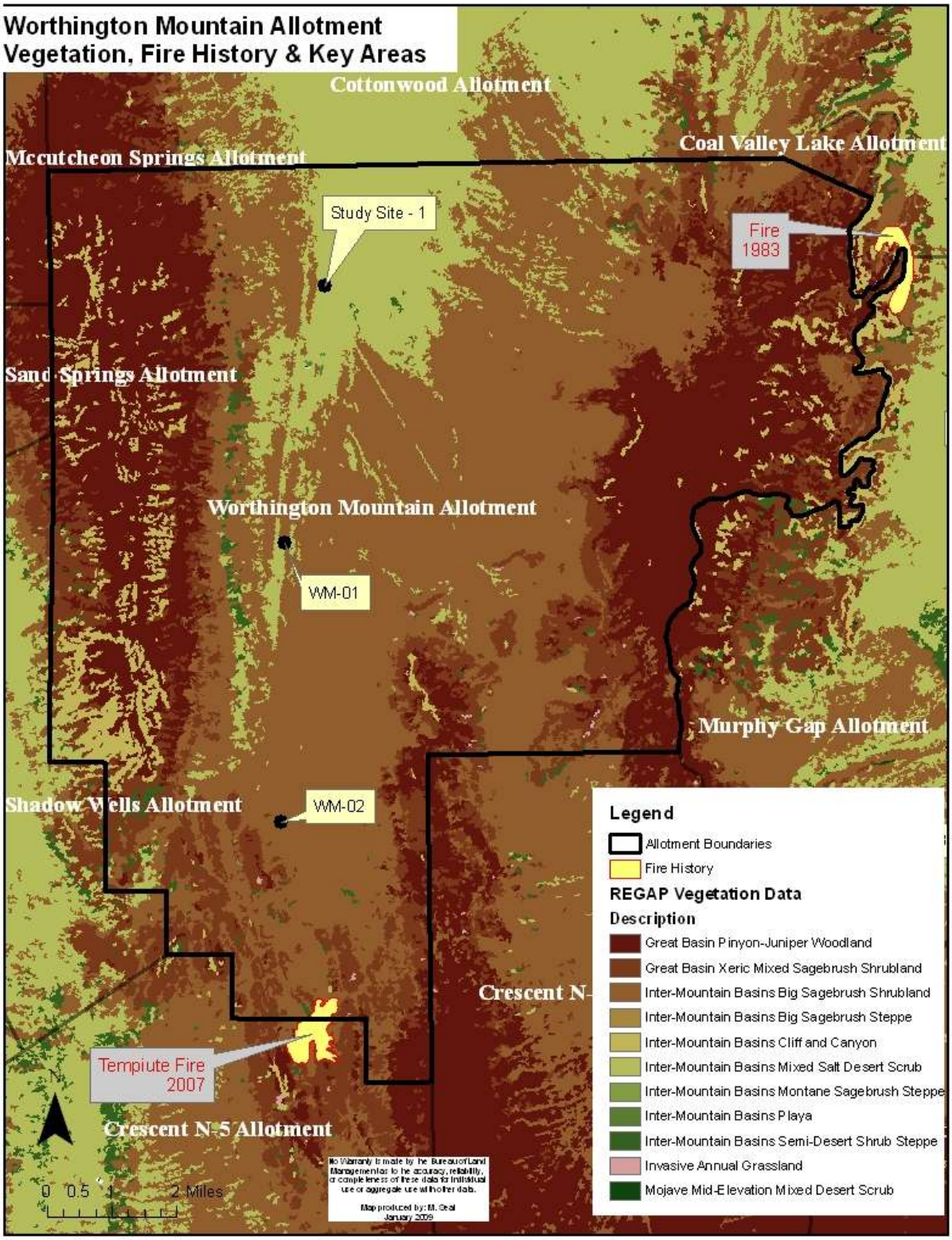

Worthington Mountain Allotment
Vegetation, Fire History & Key Areas
Cottonwood Allotment
Mccutcheon Springs Allotment
Coal Valley Lake Allotment
Study Site - 1
Fire
1983
Sand Springs Allotment
Worthington Mountain Allotment
WM-01
Murphy Gap Allotment
Shadow Wells Allotment
WM-02
Crescent N-
Tempiute Fire
2007
Crescent N-5 Allotment
0 0.5 1 2 Miles
Legend
Allotment Boundaries
Fire History
REGAP Vegetation Data
Description
Great Basin Pinyon-Juniper Woodland
Great Basin Xeric Mixed Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe
Inter-Mountain Basins Cliff and Canyon
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe
Inter-Mountain Basins Playa
Inter-Mountain Basins Semi-Desert Shrub Steppe
Invasive Annual Grassland
Mojave Mid-Elevation Mixed Desert Scrub
Map produced by: M. Deal
January 2009

Figure 12

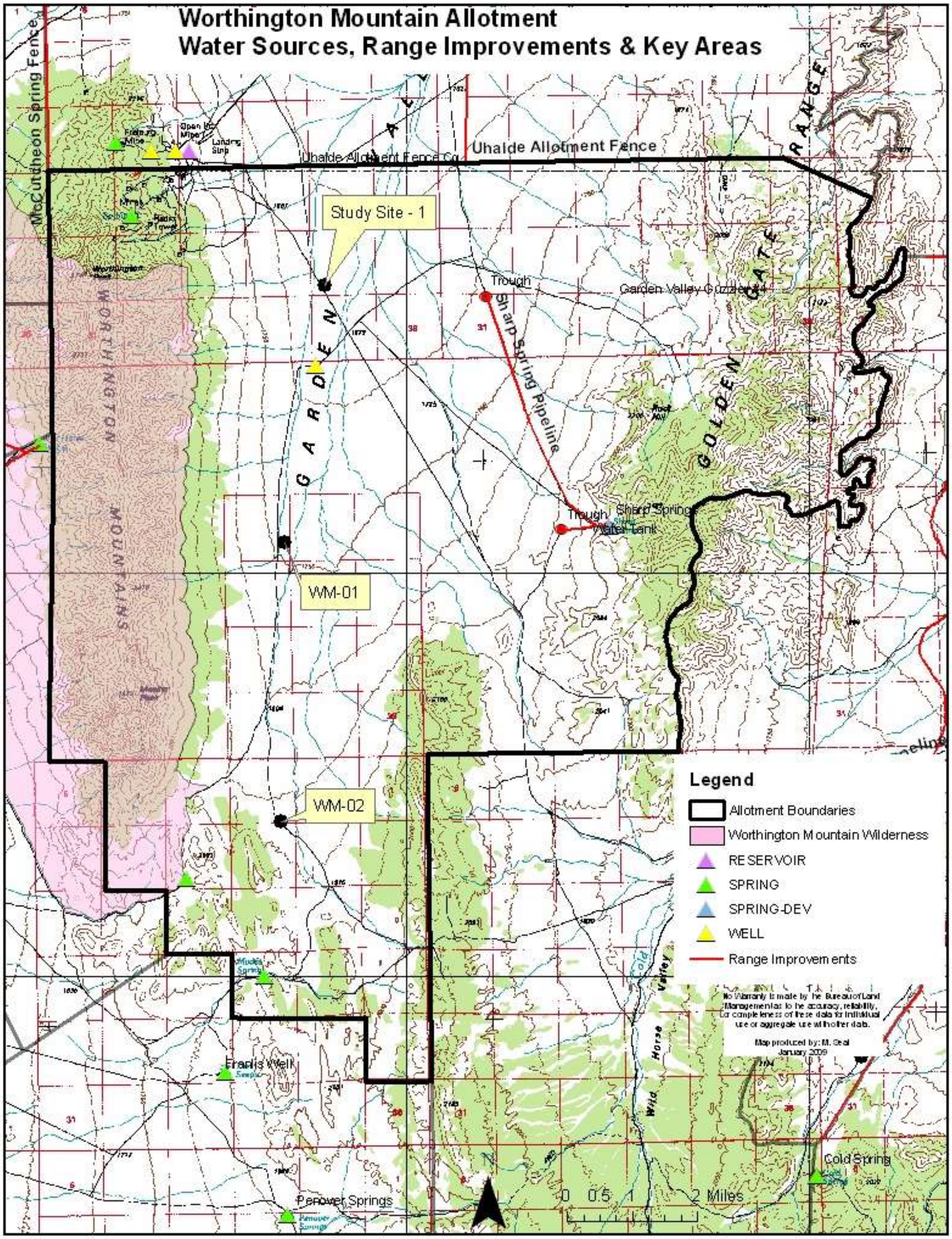
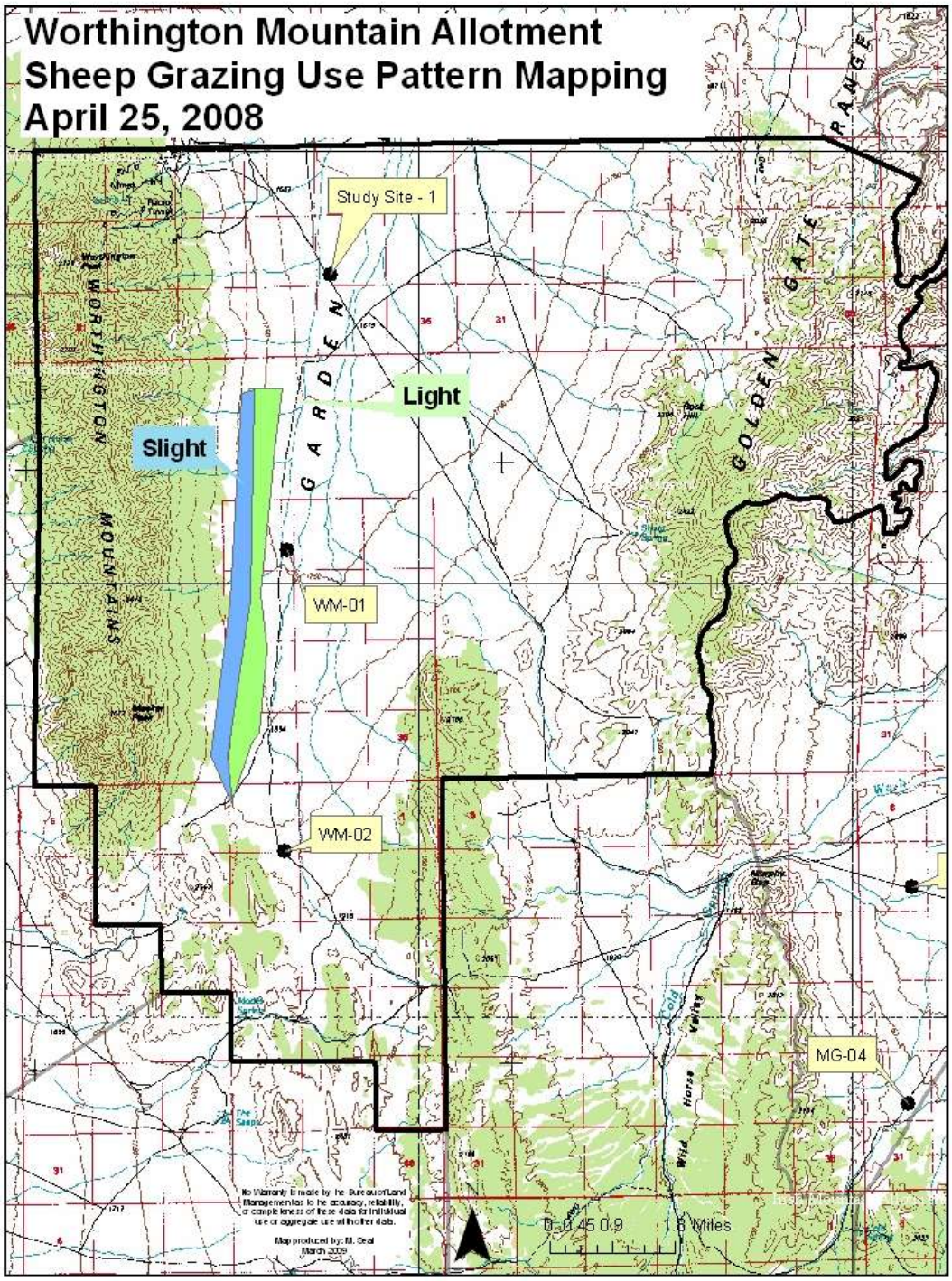

Worthington Mountain Allotment
Water Sources, Range Improvements & Key Areas
McCutcheon Spring Fence
Uhalde Allotment Fence
Study Site - 1
Trough
Garden Valley Guzzler
Sharp Spring Pipeline
Sharp Spring
Water Tank
WM-01
WM-02
WORTHINGTON MOUNTAINS
GARDEN
GOLDEN GATE RANGE
Legend
Allotment Boundaries
Worthington Mountain Wilderness
RESERVOIR
SPRING
SPRING-DEV
WELL
Range Improvements
Franks Well
Penover Springs
Cold Spring
0 0.5 1 2 Miles

Figure 13


Worthington Mountain Allotment
Sheep Grazing Use Pattern Mapping
April 25, 2008
Study Site - 1
Light
Slight
WM-01
WM-02
MG-04
WORTHINGTON MOUNTAINS
GARDEN
GOLDEN GATE RANGE
0 0.45 0.9 1.8 Miles

APPENDIX B, SECTION 3 - WEST TIMBER MOUNTAIN ALLOTMENT SHEEP AUMS TO CATTLE AUMS STOCKING RATES CALCULATIONS

The conversion of sheep AUMs to cattle AUMs was determined after an analysis of soil map units from the Soil Survey of Lincoln County, Nevada, North Part; and the Soil Survey of Nye County, Nevada, Northeast Part to corresponding ecological range sites, forage production, and ecological condition data collected on the allotment.

The West Timber Mountain Allotment contains 12,571 total acres of which 12,571 acres are public (BLM) and 0 acres are privately owned.

The area within the West Timber Mountain Allotment is comprised of 10 separate soil map units (SMU) as identified within the Soil Survey of Lincoln County, Nevada, North Part; and the Soil Survey of Nye County, Nevada, Northeast Part. Each soil map unit incorporates several range sites as identified in the soil survey. Each of the major soil components within the soil map units corresponds to a specific range site. Also, the Soil Surveys identify the percent composition of each of the major soil components within the soil map unit (to a maximum of 85% of the SMU). The percent composition of the major soil components was multiplied by the total acreage of the soil map unit to determine the acreage for each of the major soil components and its corresponding range site. Forage production on the remaining area (15%) of the SMU not identified by the major soil components was not incorporated into the stocking rate calculations.

Soil Surveys and Ecological site inventory (ESI) was conducted on the allotment over the past twenty years. Production data from ESI was used in calculating the stocking rate for cattle. Since cows primarily forage on grass, only grass production figures were used to calculate the new stocking rate. Production data from forbs and shrubs were not included in the stocking rate calculations. Because the grass composition based on ecological condition is low, and to be conservative in the estimation of the new stocking rate, grass production was calculated based on the unfavorable year annual production.

Of the 10 soil map units within the West Timber Mountain Allotment, grass production associated with 8 of the units were eliminated from consideration in calculating the stocking rate due to the following reason: steepness of topography. These 8 soil map units were:
Nye County - SMU 3223, SMU 3672,
Lincoln County - SMU 3580, SMU 2292, SMU 3670, SMU 1900, SMU 1910, SMU 3673

For the remaining two soil map units, grass production associated with these soil map units was considered when calculating new stocking rate for cattle use.
The two appropriate soil mapping units are:
Nye County – 3310 SMU
Lincoln County – 1032 SMU
Since these soil mapping units are essentially the same with only the county line separating them, they were correlated using GIS and the total acres calculated together.

Below is a breakdown of the calculations used to determine cattle AUMs for this allotment.

Soil Map Unit 1032 (3310): 6,273 Acres

Ecological Site Descriptions:

R029XY008NV Shallow calcareous loam
2 to 8 percent slopes—50% of soil map unit (SMU)
Grass production only (from ecological site, based on unfavorable year): 155 lbs per acre

3137 acres

R029XY049NV Sandy loam
2 to 8 percent slopes—20% of SMU
Calcareous Loam (30% of map unit)
Grass production only (from ecological site, based on unfavorable year): 288 lbs per acre

1254 acres

R029XY008NV Shallow calcareous loam
(028BY016NV) Armespan very gravelly sandy loam, warm,
2 to 8 percent slopes—15% of SMU
Grass production only (from ecological site, based on unfavorable year): 155 lbs per acre

941 acres

Stocking Rate Calculations:

3137 acres X 155 lbs/ac = 486,235 lbs total forage
486,235 lbs. X 50% = 243,118 lbs. allowable useable forage
243,118 lbs. / 1000 lbs/AUM = 243 AUMs (estimated stocking level)

1254 acres X 288 lbs/ac = 361,152 lbs total forage
361,152 lbs. X 50% = 180,576 lbs. allowable useable forage
180,576 lbs. / 1000 lbs/AUM = 180 AUMs

941 acres X 155 lbs/ac = 145,855 lbs total forage
145,855 lbs. X 50% = 72,928 lbs. allowable useable forage
72,928 lbs. / 1000 lbs/AUM = 72 AUMs

243 AUMs + 180 AUMs + 72 AUMs = **495 AUMs (estimated cattle stocking level for this soil map unit).**

TOTAL STOCKING LEVEL FOR CATTLE ON THE WEST TIMBER MOUNTAIN ALLOTMENT IS 495 AUMS.

APPENDIX B, SECTION 4 – SPECIAL STATUS SPECIES WRITE UP

Project Name: Batterman, West Timber, and Worthington Mountain TPR
Proposed Action: Grazing permit renewal
Resource Concern: Special Status Species Plants/Animals

Briefly describe conflicts or issues associated with the action.

Threatened and Endangered Species

None identified as present within or near project area. No indirect effects expected.

Special Status Species

Birds

Birds documented within survey blocks near (≤ 1 mile) the Batterman (Table 1), West Timber (Table 2) and Worthington Mountain (Table 3) allotments [Surveys were conducted by the Great Basin Bird Observatory (GBBO) for production of the Nevada Breeding Bird Atlas (Floyd et al. 2007]:

Loggerhead shrike
The loggerhead shrike (*Lanius ludovicianus*) has undergone rangewide declines in distribution and abundance in recent decades (Yosef 1996, Dobkin and Sauder 2004 *in* Floyd et al. 2007). Declines are particularly pronounced within shrub steppe regions of the Intermountain West, with likely contributing factors being conversion of native shrub steppe habitat types for livestock grazing and agriculture, altered fire regimes, and establishment of invasive annual grasses (Dobkin and Sauder 2004 *in* Floyd et al. 2007). Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions of shrub steppe, salt desert scrub, juniper and pinyon-juniper woodlands, and mountain mahogany stands toward the soils and habitat standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will maintain or benefit populations of loggerhead shrike within the allotments.

Golden eagle
Golden eagles (*Aquila chrysaetos*) likely use the allotments as hunting territory and may also breed where appropriate nesting substrate is present. Golden eagles prey primarily on black-tailed jackrabbits (*Lepus californicus*) in the area, and prey availability is likely the primary determinant of population change. Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions toward the soils and habitat standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will maintain jackrabbit and other small mammal species' populations within the allotments, thus also benefitting golden eagles.

Gray vireo

The gray vireo (*Vireo vicinior*) in Nevada has particularly specialized breeding habitat requirements consisting of "open, mature, pinyon-juniper woodlands that are especially warm and dry and have at least some shrub or scrub understory component" (Barlow et al. 1999 *in* Floyd et al. 2007). Within Nevada, this habitat type is often found within a fairly narrow mid-elevation band encircling mountain ranges. Although the total breeding population is relatively small (Rich et al. 2004 *in* Floyd et al. 2007), the species was found to be locally common in Lincoln and northeastern Nye counties wherever appropriate habitat occurred (Floyd et al. 2007). While little studied in Nevada, heavy grazing pressure elsewhere has been identified as a primary threat to the gray vireo (Wauer 1977 *in* Floyd et al. 2007). Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions within the allotments toward the standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will maintain populations of gray vireo within the allotments.

Pinyon jay

The pinyon jay (*Gymnorhinus cyanocephalus*) is associated with pinyon pine (*Pinus monophylla*) woodlands during the early spring breeding season within Nevada, but may breed in juniper (*Juniperus osteosperma*) or other woodland types if pinyon availability is limited (Ryser 1985, Contreras 1999, and Balda 2002 *in* Floyd et al. 2007). It may also forage in other habitat types such as sagebrush shrublands (Balda 2002 and Garrett and Dunn 1981 *in* Floyd et al. 2007). Populations have declined significantly rangewide (Sauer et al. 2005 *in* Floyd et al. 2007), particularly due to past land management policies focused on eradication of pinyon and pinyon/juniper woodlands (Balda 2002). The proposed action is likely to have little, if any, effect on stands of pinyon or pinyon/juniper woodlands within the allotments. Therefore, there is little likelihood that the proposed action would affect populations of pinyon jay within the proposed action area.

Crissal thrasher

The crissal thrasher (*Toxostoma crissale*) is a species that typically occurs within Nevada in dense mesquite stands, thick riparian areas, and Mojave shrublands (Floyd et al. 2007). However, the Nevada Breeding Bird Atlas effort documented two occurrences in northwestern Lincoln County, one in a survey block just outside the southern periphery of the Worthington Mountain allotment. It is unknown what type of habitat these occurrences were documented in. Because this allotment contains little, if any, appropriate habitat for crissal thrasher, the proposed action is unlikely to affect the species.

Phainopepla

While the allotments are beyond the normal range of the phainopepla (Phainopepla nitens) within Nevada, the Nevada Breeding Bird Atlas effort documented a single occurrence of a probable breeding effort in northeastern Nye County, near the eastern periphery of the Batterman Wash allotment (Floyd et al. 2007). Within Nevada, phainopeplas require thick mesquite and acacia stands with abundant mistletoe (Floyd et al. 2007). Because the allotments contain none of this type of habitat, any probable

breeding pair such as that documented by the Atlas is likely the exception to the habitat requirement rule. As such, the proposed action is unlikely to affect the species.

Western burrowing owl

Preferred breeding habitat of the western burrowing owl (*Athene cunicularia hypugaea*) includes short vegetation and the presence burrows created by mammals (Haug et al. 1993 *in* Floyd et al. 2007). Vegetation types are variable and include open grasslands, sagebrush, and sagebrush-steppe (Wildlife Action Plan Team 2006), but all habitats must include an adequate supply of small rodent and insect prey. Therefore, these habitats must also contain areas of adequate grass and forb cover upon which small rodents depend. Primary threats to the species include habitat loss, degradation, and fragmentation due to agricultural and urban land conversion (Wildlife Action Team 2006). Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions within the allotments toward the standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will maintain populations of small and/or burrowing mammals and thus burrowing owls within the allotments.

Yellow-breasted chat

Within eastern Nevada, the yellow-breasted chat (*Icteria virens*) inhabits dense, shrubby, riparian thickets. This habitat type is quite sparse and patchy throughout the eastern part of Nevada. Because chats are tied to this habitat type, their distribution within eastern Nevada is also patchy. Given the species' close association with intact, functioning, riparian shrublands, conservation of the yellow-breasted chat requires maintaining current breeding habitats and restoration of degraded riparian shrublands. Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions of riparian shrublands toward the riparian standard outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will benefit populations of yellow-breasted chat within the allotments.

<u>Not identified in GBBO database, but likely present or habitat identified by NDOW</u>:

Greater sage-grouse

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 Lincoln County sage-grouse conservation plan (hereafter termed the Plan; 2004) includes a sagebrush habitat rating system used in the Plan. One category, termed "R2", is defined as "Areas with inadequate grass/forb understory composition, adequate sagebrush cover". The Batterman Wash, Worthington Mountain, and West Timber allotments lie within the Quinn PMU, and no estimates of habitat categories have been produced for this area. However, based on cover data collected for Batterman Wash, Worthington Mountain, and

West Timber allotments, and professional observations throughout the allotments, a similar approach to evaluating the suitability of sagebrush communities for greater sage-grouse can be employed. The sagebrush vegetative communities at key areas BW-02, WTM-01, and WM-02 measured within the allotments are evaluated below.

Key areas are sited in areas representative of livestock grazing on the major vegetation types throughout the allotments. One (BW-02) of two key areas within the Batterman Wash allotment and is a black sage/Indian ricegrass ecological site (029XY008NV), located within current or potential sage-grouse habitat. Under the sage-grouse guidelines, the herbaceous grass and forb component combined should comprise at least 15% of the vegetative community by cover, and sagebrush should comprise at least 15-25% of vegetative cover (Connelly et al. 2000). This site is not meeting the herbaceous understory cover requirements established within the sage-grouse guidelines, as all grasses and forbs combined comprised less than one percent cover (Table 2.3). Sagebrush cover (15%) barely met the minimum set forth within the guidelines.

Within the West Timber Mountain allotment key area WTM-01 is also located within a black sage/Indian ricegrass ecological site (029XY008NV), and is current or potential sage-grouse habitat. Percent cover of grasses and forbs combined was 2.5% and sagebrush cover was 5.9%, well below the minimums established in the sage-grouse guidelines (Connelly et al. 2000).

Within the Worthington Mountain allotment, key area WM-02 is located on the same (029XY008NV) ecological site and is current or potential sage-grouse habitat. This site had 1.3% cover of grasses/forbs and 21.1% sagebrush cover. This lack of an herbaceous understory indicates the allotment does not meet the sage-grouse guidelines (Connelly et al. 2000).

The vegetative composition in sagebrush communities within the allotments is currently not providing the desired habitat components to sustain any greater sage-grouse present. Site specific evaluation of sage-grouse habitat guidelines should be tempered with consideration of site potentials described in the Ecological Site Description (ESD).

> There is much variability among sagebrush-dominated habitats (Tisdale and Hironaka 1981, Hironaka et al. 1983), and some Wyoming sagebrush and low sagebrush breeding habitats may not support 25% herbaceous cover. In these areas, total herbaceous cover should be >15 % . Further, the herbaceous height requirement may not be possible in habitats dominated by grasses that are relatively short when mature. In all of these cases, local biologists and range ecologists should develop height and cover requirements that are reasonable and ecologically defensible. (Connelly et al. 2000)

Because these allotments are not meeting the desired vegetative composition for Standard 3 or the guidelines for sage-grouse habitat, they fail to meet the needs of the key "umbrella" species for sagebrush habitats identified in the Ely District Resource Management Plan (USDI BLM 2008).

Juniper titmouse

The juniper titmouse (*Baeolophus ridgwayi*) is closely associated with older pinyon-juniper woodlands, particularly with closed canopies and where cavities are available for nesting (Neel 1999, Pavlacky and Anderson 2001 *in* Floyd et al. 2007). It has also been noted that the species is often particularly associated with pinyon-juniper/riparian interfaces. Because livestock grazing within the proposed action area is unlikely to be focused upon pinyon-juniper woodlands it should have no effect on the majority of suitable habitat present in the area. Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions of riparian vegetation at the interfaces with pinyon-juniper habitats toward the standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will benefit juniper titmouse populations within the allotments.

Vesper sparrow

The breeding population trend for vesper sparrow (*Pooecetes gramineus*) within the Basin and Range physiographic region has been in significant decline since 1980 (Neel 1999). Gaines (1977 *in* Neel 1999) reported declines in the eastern Sierra Nevada and attributed such declines to loss of the herbaceous understory in those sagebrush communities. Preferred nesting habitat within Nevada includes higher elevation open areas containing a scattered canopy of big sagebrush species, with a significant understory component of at least 20% ground cover of grasses, forbs, and young shrubs (Neel 1999). There is limited preferred nesting habitat within the proposed action area. Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions of riparian shrublands toward the standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will benefit populations of vesper sparrow within the allotments.

Ferruginous hawk

Within Nevada, most individual ferruginous hawks (*Buteo regalis*) are present as breeders during spring through fall, with a relatively low number of over-wintering individuals dependent upon winter severity (Wildlife Action Team 2006). Breeding habitat includes nesting, post-fledging, and foraging areas surrounding nest sites, which are commonly located in a juniper tree at the interface between pinyon-juniper woodlands and sagebrush-steppe rangelands. Nesting areas often contain multiple nests used by the same breeding pair over successive years, and have been reported to range in size from 0.01 to 9.0 km^2 (Collins and Reynolds 2005). In contrast to other parts of its breeding range, suitable nest sites are not a limiting factor for ferruginous hawks within Nevada.

However, more so than other species of *Buteo*, ferruginous hawks are particularly sensitive to human and other disturbance during the courtship, nest site selection, nest construction, egg-laying, incubation, and early brood-rearing phases of reproduction. Thus, a critical component of any suitable nesting habitat is freedom from disturbance during these time periods.

Within these allotments, the period of use for both cattle and sheep during March, April, May, and June could negatively affect reproductive success through disturbance from sheepherders, sheep dogs, and sheep themselves, which are often very noisy. In addition, cattle often use isolated juniper trees, sites particularly preferred as nest sites, for shade and as rubbing posts, potentially causing temporary or permanent nest abandonment.

As with other species of raptors, ferruginous hawks require an adequate prey base of small mammals. Lagomorphs (rabbits and hares) are particularly important prey items for ferruginous hawks in Nevada, and comprise the majority of the biomass consumed. Ground squirrels constitute a smaller portion of total biomass consumed. Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions within the allotments toward the standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will aid in maintaining populations of small mammals upon which the ferruginous hawk depends.

Mammals:

Pygmy rabbit
There are no documented occurrences of pygmy rabbit (*Brachylagus idahoensis*) within any allotment in the proposed action area, but populations are likely wherever taller sagebrush occurs in concert with friable soils. Loss of habitat through "fire, grazing, invasion of exotic annuals, and agricultural conversion" has been identified as the most significant contributing factor to pygmy population declines (Whisenant 1990, Knick and Rotenberry 1995, 1997 *in* Wildlife Action Plan Team 2006). Vegetative composition in sagebrush communities within the allotments is currently not providing the desired habitat components to sustain any pygmy rabbits present. Insofar as the grazing management practices outlined in the Terms and Conditions of the proposed action work to maintain or move the vegetative conditions toward the cover and habitat standards outlined within the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area (USDI 1997), they will benefit any extant populations of pygmy rabbit within the allotments.

Other Wildlife:

Mule deer (*Odocoileus hemionus*) - All of Batterman Wash and Worthington Mountain allotments and the east half of the West Timber allotment has been identified as yearlong mule deer habitat. In addition, 18,400 acres of crucial mule deer winter habitat occur along the eastern boundaries of the Batterman Wash and Worthington Mountain allotments. There are an additional 1,384 acres of crucial summer habitat along the western boundary of the Batterman Wash allotment.

American pronghorn (*Antilocapra americana*) - Most of the non-forested portions of the three allotments have been identified as pronghorn habitat. None of these areas are designated as crucial range.

Elk (*Cervus elaphus*) - There is no elk habitat within the proposed action area.

Bighorn sheep - Bighorn sheep (*Ovis canadensis nelsoni*) occupy the upper elevations of the Quinn Range, northwest of the Batterman Wash Allotment where domestic sheep (*O. aries*) have been and would continue to be authorized to graze under the proposed action. Mike Podborny (Wildlife Biologist, Nevada Department of Wildlife, 2/2009) indicated that this particular herd of bighorns has always moved west to lower elevation wintering areas within Railroad Valley. He stated that the likelihood that any individual bighorns would move southeast (through the unsuitable dense conifer vegetation found on the east slope of the Quinn Range) and come into potential conflict with domestic sheep in the Batterman Wash allotment is low. Therefore, the proposed action is unlikely to affect nearby populations of bighorn sheep.

Plants:
White River catseye (*Cryptantha welshii*), a BLM Sensitive Species, has been documented (Nevada Natural Heritage Program 2007) just outside the northern periphery of the Batterman Wash allotment, and may occur in appropriate habitat throughout the proposed action area. Found in "dry, open, sparsely vegetated outcrops", White River catseye "appears to tolerate or even increase with transient disturbances within its habitat, such as animal trampling and roadside maintenance" (Nevada Natural Heritage Program 2007, data compiled 2001). Based on the habitat requirements of White River catseye, the proposed action is unlikely to negatively affect any extant populations within the area.

Table 1. Bird species and breeding status reported within Atlas of the Breeding Birds of Nevada (Floyd et al. 2007) near or within the Batterman Wash allotment.

Status	**Alpha code**	**Common name**
Possible	AMKE	American kestrel
Confirmed	AMRO	American robin
Possible	BCHU	black-chinned hummingbird
Probable	BGGN	blue-grey gnatcatcher
Possible	BHCO	brown-headed cowbird
Confirmed	BHGR	black-headed grosbeak
Probable	BRBL	Brewer's blackbird
Probable	BRSP	Brewer's sparrow
Possible	BTGW	black-throated grey warbler
Possible	BTHU	broad-tailed hummingbird
Possible	BTSP	black-throated sparrow
Confirmed	BUOR	Bullock's oriole
Possible	BUSH	bushtit
Possible	CAFI	Cassin's finch
Confirmed	CHSP	chipping sparrow
Possible	COPO	common poorwill
Possible	CORA	common raven
Possible	GOEA	golden eagle
Probable	HOFI	house finch

Possible	HOLA	horned lark
Probable	HOWR	house wren
Confirmed	KILL	killdeer
Probable	LAZB	lazuli bunting
Possible	LEGO	lesser goldfinch
Possible	MALL	mallard
Possible	MGWA	MacGillivray's warbler
Possible	MOCH	mountain chickadee
Probable	MODO	mourning dove
Possible	NOFL	northern flicker
Possible	NOHA	northern harrier
Possible	NOMO	northern mockingbird
Probable	PHAI	phainopepla
Possible	PLVI	plumbeous vireo
Possible	ROWR	rock wren
Possible	SAGS	sage sparrow
Possible	SCOR	Scott's oriole
Probable	SOSP	song sparrow
Probable	SPTO	spotted towhee
Possible	VGSW	violet-green swallow
Possible	VIWA	Virginia's warbler
Confirmed	WEKI	western kingbird
Confirmed	WESJ	western scrub jay
Confirmed	WETA	western tanager
Possible	WTSW	white-thoated swift
Probable	YBCH	yellow-breasted chat
Confirmed	YWAR	yellow warbler

Table 2. Bird species and breeding status reported within Atlas of the Breeding Birds of Nevada (Floyd et al. 2007) near or within the West Timber allotment.

Status	**Alpha code**	**Common name**
Presumed Non-Breeders	BARS	barn swallow
Presumed Non-Breeders	BRSP	Brewer's sparrow
Confirmed	BTSP	black-throated sparrow
Possible	BUOW	burrowing owl
Possible	CORA	common raven
Possible	HOFI	house finch
Probable	HOLA	horned lark
Possible	LOSH	loggerhead shrike
Possible	NOMO	northern mockingbird
Possible	PIJA	pinyon jay
Probable	SAGS	sage sparrow

Table 1. Bird species and breeding status reported within Atlas of the Breeding Birds of Nevada (Floyd et al. 2007) near or within the Worthington Mountain allotment.

Status	Alpha code	Common name
Probable	ATFL	ash-throated flycatcher
Probable	AUWA	Audubon's warbler
Possible	BEWR	Bewick's wren
Possible	BGGN	blue-grey gnatcatcher
Possible	BHCO	brown-headed cowbird
Possible	BHGR	black-headed grosbeak
Confirmed	BRSP	Brewer's sparrow
Confirmed	BTSP	black-throated sparrow
Possible	BUOR	Bullock's oriole
Possible	CLSW	cliff swallow
Probable	COHU	Costa's hummingbird
Probable	COPO	common poorwill
Confirmed	CORA	common raven
Possible	CRTH	crissal thrasher
Possible	GOEA	golden eagle
Possible	GRFL	gray flycatcher
Probable	GRVI	gray vireo
Possible	HOFI	house finch
Confirmed	HOLA	horned lark
Confirmed	LOSH	loggerhead shrike
Confirmed	MODO	mourning dove
Possible	NOHA	northern harrier
Confirmed	NOMO	northern mockingbird
Presumed Non-Breeders	OCWA	orange-crowned warbler
Presumed Non-Breeders	OSFL	olive-sided flycatcher
Possible	PIJA	pinyon jay
Confirmed	SAGS	sage sparrow
Confirmed	SATH	sage thrasher
Probable	SCOR	Scott's oriole
Possible	SPTO	spotted towhee
Possible	TUVU	turkey vulture
Possible	VGSW	violet-green swallow
Presumed Non-Breeders	WAVI	warbling vireo
Presumed Non-Breeders	WCSP	white-crowned sparrow
Confirmed	WEME	western meadowlark
Possible	WESO	western screech owl
Presumed Non-Breeders	WETA	western tanager
Presumed Non-Breeders	WIWA	Wilson's warbler
Possible	WTSW	white-throated swift
Presumed Non-Breeders	YWAR	yellow warbler

Presumed Non-Breeders	ZZ-EMPI	*Empidonax* spp.

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APPENDIX C – MURPHY GAP ALLOTMENT SDD

Standards and Guidelines Assessment

The Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area were developed by the Mojave-Southern Great Basin 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 Murphy Gap Allotment (#10110) in the Ely BLM 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 Murphy Gap Allotment by a BLM interdisciplinary team consisting of rangeland management specialists, wildlife biologist, weeds specialist, ecologist, and a hydrologist. Documents and publications used in the assessment process include the Soil Survey of Lincoln County, Nevada, North Part; Ecological Site Descriptions for Major Land Resource Area 29; 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). A complete list of references is included at the end of this document. All are available for public review in the Ely BLM 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 Murphy Gap Allotment encompasses approximately 35,210 public land acres (Appendix II, Figure I. General Map). This allotment is a common use allotment located approximately 15 miles northwest of Hiko, Nevada in the northwestern portion of Lincoln County. The permit area occurs within the Coal Valley Watershed (020). None of the allotment is within a Herd Management Area (HMA), and the nearest HMA would have been the Seaman Range (HMA), which was approximately three miles from the allotment. However, this HMA was closed in 2008 by the Ely District Record of Decision/Resource Management Plan. Most of this allotment is located in the Quinn Sage Grouse Population Unit, except the most southern portion of the allotment which is not located within a sage grouse population unit. The permit area occurs within the Nevada Department of Wildlife hunting management area #13. No springs or riparian areas are within the Murphy Gap Allotment, water sources are limited to wells and reservoirs. None of the Murphy Gap Allotment is within wilderness; the nearest wildernesses are the Worthington Mountains Wilderness and Weepah Spring Wilderness, which are approximately seven and a half miles to the west of the allotment and eight and a half miles east of the allotment, respectively. The Fossil Wild Fire is the most recent fire, burning 154 acres in the southern portion of the allotment in July of 2005.

The Murphy Gap Allotment has two permittees, John Uhalde & Co. (#2704736) and Double U Livestock LLC (#2700046). Both of these permittees use this allotment along with other allotments as part of their southern permits for (winter) grazing from late fall to early spring. Other allotments included on the John Uhalde & Co. (#2704736) southern permit are Batterman Wash, Black Bluff, South Coal Valley, West Timber Mountain, White River Trail and Worthington Mountain. Other allotments included on the Double U Livestock LLC (#2700046) southern permit are Crescent (N-4), Crescent (N-5), Dry Farm, Irish Mountain, Needles, and White River Trail. The term "southern permit(s)" is used only as a reference to help clarify which term permit is being renewed with regard to these permittees. Since both permittees also hold separate grazing permits for allotments in the northern portion of the Ely BLM District, the southern permits are only grazed through the winter grazing season. The term "southern permit(s)" will not be included on the actual permits, since the permit numbers identify this differentiation.

This Standards Determination Document evaluates and assesses livestock grazing management achievement of the Standards and conformance with the Guidelines for both permittees. Based on this document, and other associated Standards Determination Documents completed for the other allotments listed above, new term grazing permits could be issued this year to John Uhalde & Co. (#2704736) and Double U Livestock LLC (#2700046) for a period up to ten years for their respective southern permits on the Ely BLM District. Future term permit renewals for Murphy Gap Allotment could be considered based on this determination along with future monitoring data.

A Final Multiple Use Decision (FMUD) was issued on October 18, 1996 for those "Allotments Located within the Seaman Herd Management Evaluation Area" (Seaman FMUD) which included Murphy Gap Allotment. This decision carried forth the management actions and adjustments to permitted use on this allotment. The Final Multiple Use Decision was based upon the evaluation of monitoring data, recommendations from district staff, and input received through consultation, coordination, and cooperation from the permittee and public interest groups to determine progress in meeting management objectives for each allotment. Based on these decisions, range management actions were implemented to meet the land use plan objectives as stipulated in the Schell Resource Area Record of Decision.

Through the Seaman FMUD both permittees have dual use permits (see Table 1 and 2), however this is contingent on construction of an allotment boundary fence between Murphy Gap Allotment and South Coal Valley Allotment. Currently both permittees are only grazing sheep, since this fence has not yet been constructed. For sheep use only the period of use for John Uhalde & Co. is 12/15-04/15 and for Double U Livestock LLC is 10/01-04/15. For dual use the period of use for sheep grazing is the same, but the period of use for cattle grazing for both permittees is 09/01-03/31.

Table 1. Permitted Use per Appendix V, Seaman FMUD

John Uhalde & Co. #2704736

	Sheep Use Only	
Allotment	Sheep AUMs	Cattle AUMs
Murphy Gap	657 AUMs	0
	Dual Use	
Murphy Gap	448AUMs	209 AUMs

Table 2. Permitted Use per Appendix V, Seaman FMUD

Double U Livestock LLC #2700046 (transferred from Bertrand Paris & Sons)		
	Sheep Use Only	
Allotment	Sheep AUMs	Cattle AUMs
Murphy Gap	1,294 AUMs	0
	Dual Use	
Murphy Gap	850 AUMs	444 AUMs

The Seaman FMUD was reviewed and taken in to consideration along with the analysis of current data. Most of the terms and conditions of the Seaman FMUD are still pertinent based on this determination and are included in Part 4. Recommendations. While it is recommended to retain most of these terms and conditions with no adjustments, utilization objectives have also been recommended for this allotment. Setting maximum utilization levels will allow for desirable key herbaceous and shrub species to develop roots to improve carbohydrate storage for vigor and reproduction, as well as providing for improved habitat for wildlife**.** These recommendations are based on the findings of this determination.

The Murphy Gap Allotment was a newly designated allotment by the Seaman FMUD in 1996 to conform with natural barriers and existing fences for better permit administration, and to allow the permittees to manage their livestock better. The Murphy Gap Allotment was a created by combining the west half of Uhalde Coal Valley Allotment, the northeast portion of Crescent Allotment, and that part of Worthington Allotment east of the Golden Gate Range. One key area was monitored in 2003 and 2008; four additional key areas were established and monitored in 2008. These data were analyzed in this assessment (see Appendix I, Data Analysis). Native vegetation varies throughout the Murphy Gap Allotment and includes four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), ephedra (*Ephedra nevadensis*), winterfat (*Krasheninnikovia lanata*), Wyoming sagebrush (*Artemisia tridentata var. wyomingensis*), spiny hopsage (*Grayia spinosa),* black sagebrush (*Artemisia nova),* Indian ricegrass (*Achnatherum hymenoides*), squirreltail (*Elymus elymoides*), needleandthread (*Hesperostipa comata*), and small galleta (*Hilaria jamesii*).

PART 1. STANDARD CONFORMANCE REVIEW

Murphy Gap Allotment Standards Review

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:
- Stream bank stability.

Determination:
□ Achieving the Standard
X 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 significant contributing factor to not achieving the standard.
X Livestock are not a significant contributing factor to not achieving the standard
X Failure to meet the standard is related to other issues or conditions

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

UPLANDS: Rangeland monitoring and professional observation indicates that overall soil condition is currently being maintained. Soils are stable and productive and the topsoil is holding in place.

Line intercept cover studies conducted at the five key areas demonstrate that cover is meeting the ecological site description (ESD) for key area MG-04, but is not meeting the ESD cover recommendations for the other four key areas. Based on the Line Intercept Cover Study four key areas have a high percentage of litter and a low percentage of live vegetative cover. There are high percentages of nonnative invasive annuals including Russian thistle at key areas MG-02 and MG-05. Although nonnative annuals do provide some cover to the soil, they are shallow rooted species that are less likely to stabilize soil during heavy rain events.

Key areas MG-01 and MG-03 occur in the Glotrain-Devildog association within the 2100 soil mapping unit (SMU), ranges from a gravelly coarse sandy loam to a very gravelly ashy coarse sandy loam with slopes ranging from 0-8%. This soil mapping unit occurs on about a sixth of the allotment and is dominated by desert shrub vegetation or sagebrush shrub communities. The ecological site description for key area MG-01 is 029XY079NV and MG-03 is 029XY049NV. The topography is fan piedmont. This association ranges from well drained to moderately drained soils with runoff varying from slow to medium. The ESD suggests that approximate ground cover (basal and

crown) at MG-01 should be between 20-30%. Actual cover was 9%. Cover varies among the plant species present with no particular specie dominating. Total shrub cover is 2.6%, forb cover is 4.4%, and grass cover is 2%. The ESD suggests that approximate ground cover (basal and crown) at MG-03 should be between 15-25%. Actual cover was 4.6%. Again, cover varies among the plant species present with no particular species dominating. Total shrub cover is 2.9%, forb cover is <1%, and grass cover is 1.3%.

Key area MG-02 occurs in the Devildog-Gardenvalley-Qwynn association within the 1359 SMU, ranging from a gravelly coarse sandy loam to a very gravelly ashy coarse sandy loam with slopes ranging from 0-4%. This soil mapping unit occurs on less than an eighth of the allotment and is dominated by desert shrub vegetation and sagebrush shrub vegetation. The ecological site for this key area MG-02 is 029XY042NV with Gardenvalley soil component. The topography is fan skirt. This component of the association has coarse surface texture providing rapid water infiltration and is well drained. The ESD suggests that approximate ground cover (basal and crown) at MG-02 should be between 15-30%. Actual cover was 3%.

Key area MG-04 occurs in the Handpah-Veet association within the 1650 SMU, ranging from very gravelly sandy loam to gravelly sandy loam with slopes ranging from 2-8%. This soil mapping unit occurs on less than an eighth of the allotment and is dominated by sagebrush shrub vegetation. The ecological site for this key area MG-04 is 029XY006NV within the Handpah soil component. The topography is fan remnants and inset fans. This component of the association has moderately fine to medium texture soil surface with low to moderate water capacity. Runoff is slow to moderate. The ESD suggests that approximate ground cover (basal and crown) at MG-04 should be between 15-25%. Actual cover was 18%.

Key area MG-05 occurs in the Penoyer-Geer association within the 3190 SMU, ranging from a silt loam to fine sandy loam with slopes ranging from 0-4%. This soil mapping unit occurs on less than an eighth of the allotment and is dominated by desert shrub vegetation. The ecological site for this key area MG-05 is 029XY020NV with the Penoyer soil component. The topography includes alluvial plains, fan skirts and inset fans. This component of the association has very fine sandy loams at the surface and normally develops a vesicular crust which may limit porosity and inhibit water infiltration and seedling emergence. Soils of this site are highly erodible and, with site degradation, gullies may form which interrupt and concentrate overland flow patterns. The ESD suggests that approximate ground cover (basal and crown) at MG-05 should be between 10-20%. Actual cover was 7%.

Ocular surveys showed no recent pedestaling, rills or gullying occurring in this allotment. Although the live plant cover is low throughout most of the allotment, the high amount of litter is serving to inhibit the development of physical crusts in the salt desert shrub communities by intercepting raindrops before they strike bare soil. Litter also helps cushion soils from trampling, and moderate temperature and moisture extremes on the soil surface (NRCS 2001). Based on the indicators for soils, this allotment is not meeting this standard due to low live vegetative cover. Since soils are stable and there is adequate

litter protecting the soil surface, this allotment is progressing toward meeting Standard 1. The high amount of litter and lack of live plant cover may indicate that vegetation is dying off in these areas and these are issues that need to be addressed. Because these issues are associated more with Standard 2 and 3, they are addressed there.

The grazing in the spring and winter has alternated from year to year. Since use has been slight to light and the grazing season rotated annually livestock are not considered a causal factor in not meeting Standard 1. Timing and amount of precipitation (see Appendix I, Table 6-1) over the last few years may be impacting the amount of live vegetative cover.

RIPARIAN: There are no riparian areas within the Murphy Gap Allotment, therefore it will not be analyzed in this document.

Standard 2. Ecosystem Components
Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

The above indicators were used to determine ecological site potential.

Determination:
□ Achieving the Standard
X 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 significant contributing factor to not achieving the standard.
X Livestock are not a significant contributing factor to not achieving the standard
X Failure to meet the standard is related to other issues or conditions

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

UPLANDS: The ecological processes are not being met on the upland vegetative communities. Ecological processes are defined by the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area as **"**Natural functions including the hydrologic cycle, the nutrient cycle, and energy flow (see also 43 CFR 4180.1(b))." The allotment is dominated primarily by salt desert shrub communities, and sagebrush shrub communities. There is a high density of Russian thistle in the salt desert shrub plant communities, primarily in the winterfat communities, that is may be affecting ecological processes. The sagebrush shrub communities lack vegetative cover which may be affecting ecological processes.

Salt Desert Shrub
Salt desert shrub plant communities are located at the lower elevations in the north and eastern portions of the allotment. Often these areas are dominated by salt tolerant species with sites ranging in location from the dry lake beds to mid-slope. Vegetation is characterized by four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), ephedra, winterfat (*Krasheninnikovia lanata*), Indian ricegrass, and small galleta (*Pleuraphis jamesii*). Key areas MG-02 and MG-05 are within these communities.

Russian thistle, an invasive nonnative annual, is represented throughout this area in varying densities. It is most dense along existing disturbances such as roads. It occurs in smaller densities elsewhere and is invading into the winterfat plant communities. The high composition of Russian thistle recorded using Line Intercept Cover Study at MG-02 (68%) and MG-05 (37%) indicates that the ecological processes are not adequate for these vegetative communities (see Appendix I, Tables 2-2 and 2-5). Russian thistle tolerates alkaline soil conditions. Murphy Gap Allotment occurs where the Mojave Desert and Great Basin transition occurs. Water is a limiting factor for vegetation in this area and Russian thistle is very competitive for soil moisture, limiting available soil moisture for other vegetation and interfering with the ecological processes of native vegetation ().

Sagebrush Shrub and Steppe
Sagebrush shrub and steppe plant communities are found at higher elevations on the benches of this allotment, primarily in the central, southern and western portions of the allotment. These communities are characterized by Wyoming sagebrush (*Artemisia tridentata var. wyomingensis*), spiny hopsage (*Grayia spinosa)* and/or black sagebrush (*Artemisia nova)* which may be accompanied by an assortment of perennial native bunch grasses such as Indian ricegrass (*Achnatherum hymenoides*), squirreltail (*Elymus elymoides*), *Poa* spp., needleandthread (*Hesperostipa comata*), small galleta (*Hilaria jamesii*) etc.

Based on cover studies, key areas MG-01, MG-03 and MG-04 are demonstrating a low composition of grass species and MG-04 has a high composition of shrub species. Also, MG-03 has 3% composition based on cover of nonnative invasive plants. The table below shows the percent composition by cover recorded in 2008 (also see Appendix I, Tables 2-1, 2-3 and 2-4). In the sagebrush shrub communities invasive nonnative plants are present and there is a low ratio of grasses to shrubs. "Plant communities with large amounts of basal cover, such as grasslands, tend to slow runoff more than communities with small amounts of basal cover, such as shrub lands."(NRCS 2001) Live vegetative cover is below the ESDs for these sagebrush communities which may decrease soil infiltration rates and increase runoff rates.

Key forage plant utilization method (KFPM) was used to collect utilization data at the five key areas. Utilization data was collected at one key area in 2002 and found slight use. In 2008 utilization was collected at five key areas and found use ranged from no use to light use. The grazing in the spring and winter has also alternated from year to year. Since use has been slight to light and the grazing season rotated annually livestock are not considered a causal factor in not meeting Standard 2. Precipitation patterns (see Appendix I, Table 6-1) over the last few years and an increase in traffic and recreation may or may not be contributing to the increase of Russian thistle and be why this allotment is failing to meet the standard.

Standard 3. Habitat and Biota:
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
X Not Achieving the Standard, but making significant progress towards
□ Not Achieving the Standard, not making significant progress toward standard

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

Guidelines Conformance:

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

Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Rangeland monitoring (including ocular surveys, line intercept studies, and key forage plant utilization) show habitat conditions throughout a large portion of the allotment are not exhibiting a healthy and productive plant community with suitable habitat for wildlife. Plant composition at all five key areas is not appropriate to the ecological sites. Both key areas in the salt desert shrub community have a high percentage of Russian thistle. Many wildlife species (small mammals, song birds, upland game birds, elk, deer, pronghorn) will use Russian thistle for forage and/or cover, but native species are more desirable. The three key areas in the sagebrush communities provide adequate cover, but there is a lack of perennial grasses to provide suitable feed for wildlife that grazes. wildlife. No federally threatened and endangered species have been identified in this allotment so no specific habitat conditions are managed for to meet a specified life cycle requirement. According to the Nevada Natural Heritage Database and the Atlas of the Breeding Birds of Nevada, there are BLM sensitive species identified within this allotment: sheep fleabane, desert bighorn sheep (unoccupied), golden eagle, and loggerhead shrike.

Utilization studies conducted on the allotment showed livestock grazing to be within proper use levels and this allotment has been rested from livestock grazing from late spring to early fall. Livestock are removed during part of the critical spring growing period allowing key forage vegetation to complete the phenological cycle each year and maintain existing forage and cover for wildlife, therefore current livestock grazing is not a causal factor in not meeting Standard 3. Issues identified in Standard 2 for not meeting the standard may also be contributing to not meeting Standard 3. In addition, the lack of fire disturbance in the sagebrush communities may be a factor in the lack of herbaceous understory of perennial grasses.

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

Murphy Gap Allotment Standards Summary Review

Standard #1: Soils
Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Standard #2: Ecosystem Components

Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Standard #3: Habitat and Biota
Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

Murphy Gap Allotment Guideline Conformance Review and Summary
Grazing is in conformance with all applicable Guidelines as provided in the Mojave-Southern Great Basin Standards and Guidelines. Based on a review of the monitoring data presented in this determination, current livestock grazing management practices in the Murphy Gap Allotment are in conformance with the Guidelines for Livestock Grazing Management. Permittees are proactively reducing grazing based on available forage. Range improvement projects, such as construction of the Murphy Gap fence, would prevent drift of livestock from the adjacent allotment and allow greater flexibility for these two permittees. Although grazing is not a factor in not achieving Standards 2 or 3, additional range improvement projects including water improvements to distribute grazing within this allotment may be considered on a case by case basis to help with progressing toward achieving these standards.

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

Discussion:
Current management practices implemented since the Seaman FMUD for the Murphy Gap Allotment are helping this allotment to achieve Standard 1, and progress toward achieving Standard 2 and Standard 3. Although it is outside the scope of this document, construction of an allotment boundary fence between the Murphy Gap Allotment and the South Coal Valley Allotment and development of alternative water sources should be further evaluated; also vegetative management alternatives should be considered if progress toward meeting Standard 2 and 3 is to continue.
John Uhalde & Co. uses this grazing permit as part of their southern operation for (winter) grazing from late fall to early spring for both sheep and cattle. The permittee trails sheep south in the fall and moves sheep into Batterman Wash Allotment. The permittee uses all of the allotments for sheep grazing and rotates use through herding. The permittee can trail north in the spring using the same trail, but sometimes transports the sheep herd to their northern allotments by truck. The permittee transports their cattle herd south by truck and rotates use on Batterman Wash Allotment and Worthington Mountain Allotment using water to control and rotate use. In the spring cattle are transported back to the northern allotments by truck.

The term "southern permit" is used only as a reference to help clarify which term permit is being renewed with regard to this permittee. Since this permittee also holds a separate grazing permit for allotments in the northern portion of the Ely BLM District, the southern permit is only grazed from late fall to mid spring. The term "southern permit(s)" will not be included on the actual permit, since the permit numbers identify this differentiation.

Recommendations for Murphy Gap Allotment:

Permitted use is for sheep use only or dual use only.

Table 3. Recommended Permitted Use for John Uhalde & Co. #2704736

Period of Use	Species	AUMs
Sheep Use Only		
12/15-04/15	sheep	657 AUMs
Dual Use		
12/15-04/15	sheep	448AUMs
09/01-03/31	cattle	209 AUMs

Table 4. Recommended Permitted Use for Double U Livestock LLC #2700046

Period of Use	Sheep AUMs	Cattle AUMs
Sheep Use Only		
10/01-04/15	sheep	1,294 AUMs
Dual Use		
10/01-04/15	sheep	850 AUMs
09/01-03/31	cattle	444 AUMs

Recommendations include continue all desirable livestock management practices currently being implemented for this allotment. Establish utilization levels for this allotment for key forage species. Continue rangeland monitoring of this allotment for livestock compliance with proper allowable use levels.

Through the Seaman FMUD both permittees would continue to have dual use permits (see tables above), however this would be contingent on construction of an allotment boundary fence between Murphy Gap Allotment and South Coal Valley Allotment. Until the fence is constructed both permittees would continue to only grazing sheep in this allotment. Also per the Seaman FMUD, once dual use is permitted "initial stocking levels for cattle will be evaluated at a later date to determine the amount of cattle AUMs available on a sustained yield basis. Water will need to be made available at designated locations, based on distribution patterns once cattle are placed on the allotment."

Recommendations that should be considered for inclusion in both permittees' terms and conditions:

1. Establish maximum allowable use levels as follows:

- **Perennial grasses: 30% prior to 5/1 not to exceed 50% of 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) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- **Perennial shrubs and half-shrubs: 45% use on current year's growth.**
  This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

2. <u>Livestock would be moved to another authorized pasture or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives.</u> Any deviation in livestock movement would require authorization from the authorized officer.

3. Continue terms and conditions identified for this allotment in the 1996 Final Multiple Use Decision (FMUD) for the Seaman Herd Management Area including:

f) Sheep use during the spring would be rotated between South Coal Valley, Murphy Gap, and Worthington Mountain Allotments so that lambing does not occur on any one allotment more than every other year. (Please note that West Timber Mountain Allotment may be removed from this rotation due to a change in species and operational needs of the permittee.)

g) Prior approval for dual use (cattle/sheep) would be required by the authorized officer. Cattle and sheep use levels would be in accordance with Table 3 and 4.

4. Salt and/or mineral supplements for livestock should be located no closer than ½ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock. .

5. Wildlife escape ramps would be installed and maintained by the permittee at each trough used on the allotment (permanent or temporary).

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Prepared by:

Mindy Seal, Natural Resource Specialist	Date

Reviewed by:

Bonnie Million Noxious and invasive non-native species	Date
Ruth Thompson Wild horses and burros	Date

Alicia Styles Wildlife/migratory birds/special status animals/plants	Date
Gina Jones Ecology	Date
Mark D'Aversa Soil/Air/Water/Riparian	Date

I concur:

Chris Mayer Supervisory Rangeland Management Specialist Egan Field Office	Date
Victoria Barr Field Manager Caliente Field Office	Date

APPENDIX C, SECTION 1 – DATA ANALYSIS

1. Review of Final Multiple Use Decision/Management Action Selection Report

A Final Multiple Use Decision (FMUD) was issued on October 18, 1996 for those "Allotments Located within the Seaman Herd Management Evaluation Area" (Seaman FMUD) which included Murphy Gap Allotment. This document was reviewed during the analysis along with current data.

2. Key Areas, Location, Vegetative Cover and Composition

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.

Ecological Sites are interpretive units into which landscapes of native vegetation are separated for study, evaluation, and management. An ecological site, as defined for rangeland, 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). The ecological site of a key area is determined based on several factors including soil mapping unit, topography, and plant community.

The Line Intercept Cover Study is a commonly used method of estimating the relative percent live foliar cover of a range site by plant class (tree, shrub, grass, forb, or annual). The method also estimates the percent live foliar cover by plant species. The results are then compared to the appropriate cover for each range site as indicated by the Natural Resources Conservation Service (NRCS) ecological site descriptions. Results are also compared to what is known about healthy rangelands in general.

Table 2-1. Key Areas Summary Table

Date	Key Area	Ecological Site	Cover in 2008 (%)	*Potential Cover (%)
6/17/2008	MG-01	**029XY079NV**	9%	20% to 30%
6/4/2003	MG-02	**029XY042NV**	3%	15% to 30%
9/25/2007	MG-03	**029XY049NV**	5%	15% to 25%
6/4/2003	MG-04	**029XY006NV**	19%	15% to 25%
6/4/2003	MG-05	**029XY020NV**	7%	10% to 20%

*Based on ecological site descriptions.

Listed in Tables 2-2 through 2-6 are summarized descriptions of the ecological sites within the Murphy Gap Allotment where key areas have been established and monitored using the line intercept cover study method. Included in this list are the associated soil description, precipitation zone, and the plant community composition and cover. Data collected for each key area regarding vegetative cover and vegetative composition is summarized within these tables.

Recent data collected at the key areas demonstrates that cover is being met at key area MG-04, but it is below the ecological site description at the other four key areas (see Tables 2-1 thru 2-5). Please note that there is a high percentage of nonnative invasive annuals including Russian thistle at key areas MG-02 and MG-05. Although nonnative annuals do provide some cover to the soil, they are not part of the historical vegetative composition and therefore are not included in the calculation for cover. For the composition by groups, nonnative invasives were recognized and calculated separately as a group from the percent grass, forb and shrub component. There is a high amount of litter present at all key areas.

Although the nonnative invasive plant species are not impacting soil stability, they are impacting vegetative composition. Another issue impacting vegetative composition is that all key areas are showing an increase of grasses (such as galleta and bottlebrush squirreltail) and shrubs (Douglas rabbitbrush) less palatable for grazing, and a decrease in grasses (Indian ricegrass) and shrubs (winterfat) that are more palatable for grazing. These changes in plant dynamics may cause a plant community to deteriorate and limit the quality of habitat and forage. Over time this deterioration could allow more nonnatives to invade and if a disturbance occurred, such as fire, the historical plant community would not be resilient in its recovery.

Table 2-1. Key Area MG-01 Vegetative Cover Data

Summarized Ecological Site Description for 029XY079NV:
Droughty Loam 5-8" P.Z. (precipitation zone)
Soils are loam to gravely loam with runoff from this site being slow and the soils are well drained. ***Approximate ground cover (basal and crown) is about 20–30 percent***. Plant community dominated by spiny hopsage, Nevada ephedra, Indian ricegrass and desert needlegrass. ***Potential vegetative composition is about 45% grasses, 5% forbs, and 50% shrubs.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
MG-01	See Appendix II, Figure II	6/17/2008	9.18%	Grasses 23% Forbs 48% Shrubs 29%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
galleta (PLJA)	0.86%	9%
Fendler's threeawn (ARPUF)	0.04%	<1%
fluffgrass (ERPU8)	0.47%	5%
bottlebrush squirreltail(ELEL5)	0.54%	6%
Indian ricegrass (ACHY)	0.24%	3%
pricklypear (OPUNTI)	0.45%	5%
globemallow (SPAM)	2.74%	30%
unidentified forb (AAFF1)	1.20%	13%

bud sagebrush (PIDE)	0.73%	8%
spiny hopsage (GRSP)	1.91%	21%
The line intercept method includes litter cover. Litter cover is 15.16%.		
Other plants present in the area but not encountered in transect: desert needlegrass, cheatgrass, stickseed, phacelia, ephedra, and winterfat.		

Table 2-3. Key Area MG-02 Vegetative Cover Data

Summarized Ecological Site Description for 029XY042NV:
Coarse Silty 5-8" P.Z. (precipitation zone)
Soils are moderately to strongly alkaline and calcareous. The coarse surface textures provide rapid water infiltration. ***Approximate ground cover (basal and crown) is about 15–30 percent.*** Plant community dominated by Indian ricegrass and winterfat. ***Potential vegetative composition is about 55% grasses, 5% forbs, and 40% shrubs.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
MG-02	See Appendix II, Figure II	6/12/2008	3.01%	Grasses 6% Forbs 14% Shrubs 11% Nonnative invasive 68%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
bottlebrush squirreltail (ELEL5)	0.04%	Trace
stickseed (HACKE)	0.63%	6%
globemallow (SPAM)	1.21%	12%
hoary tansyaster (MACA2	0.22%	2%
winterfat (KRLA)	0.95%	10%
Russian thistle (SATR)	6.59%*	68%
The line intercept method includes litter cover. Litter cover is 15.45%.		
Other plants present in the area but not encountered in the transect: Indian ricegrass, cheatgrass, buckwheat, budsage, and bottlebrush squirreltail.		
*provided for information purposes, not factored into total percent cover basal/crown		

Table 2-4. Key Area MG-03 Vegetative Cover Data

Summarized Ecological Site Description for 029XY049NV:
Sandy Loam 8-12" P.Z. (precipitation zone)
Soils surface textures are moderately coarse and high amounts of gravel on surface. They have moderate permeability and medium runoff. Water holding capacity is low to moderate. ***Approximate ground cover (basal and crown) is about 15–25 percent.*** Plant community dominated by Wyoming big sagebrush and Indian ricegrass. ***Potential vegetative composition is about 50% grasses, 5% forbs, and 45% shrubs.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
MG-03	See Appendix II, Figure II	6/12/2008	4.59%	Grasses 27% Forbs 10% Shrubs 60% Nonnative invasive 3%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
galleta (PLJA)	1.04%	22%
bottlebrush squirreltail (ELEL5)	0.23%	5%
globemallow (SPAM)	0.43%	9%
hoary tansy aster (MACA)	0.03%	1%
spiny hopsage (GRSP)	0.43%	9%
black sagebrush (ARNO)	1.58%	33%
ephedra (EPNE)	0.85%	18%
pepperweed (LEPID)	0.12%*	3%
Mustard	0.05%*	Trace
The line intercept method includes litter cover. Litter cover is 25.13%.		
Other plants present in the area but not encountered in transect: Indian ricegrass, cheatgrass, phacelia, Douglas rabbitbrush, sagebrush cholla, sagebrush, winterfat, and budsage		
*provided for information purposes, not factored into total percent cover basal/crown		

Table 2-5. Key Area MG-04 Vegetative Cover Data

Summarized Ecological Site Description for 029XY006NV:
Loam 8-10" P.Z. (precipitation zone)
Soil surface is moderately fine to medium textured. Available water capacity is low to moderate. Runoff is slow to moderate. ***Approximate ground cover (basal and crown) is about 15–25 percent.*** Plant community dominated by Wyoming big sagebrush, Indian ricegrass, and needle and thread grass. ***Potential vegetative composition is about 50% grasses, 5% forbs, and 45% shrubs.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
MG-04	See Appendix II, Figure II	6/12/2008	18.63%	Grasses 1% Forbs 0% Shrubs 99%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
bottlebrush squirreltail (ELEL5)	0.09%	Trace
Indian ricegrass (ACHY)	0.05%	Trace
galleta (PLJA)	0.10%	1%
black sagebrush (ARNO)	14.25%	76%
ephedra (EPNE)	2.90%	16%
Douglas rabbitbrush (CHIVI)	1.24%	7%
The line intercept method includes litter cover. Litter cover is 21.29%.		
Other plants present in the area but not encountered in transect: bottlebrush squirreltail, Indian ricegrass, cheatgrass, globemallow, phlox, Indian paintbrush, milkvetch, buckwheat, *Antennaria*, singleleaf pinyon, and Utah juniper		

Table 2-6. Key Area MG-05 Vegetative Cover Data

Summarized Ecological Site Description for 029XY020NV:
Sandy Loam 5-8" P.Z. (precipitation zone)
Soils surface textures are typically very fine sandy loams to silt loams. They have moderate permeability and medium runoff. Water holding capacity is low to moderate. ***Approximate ground cover (basal and crown) is about 10–20 percent.*** Plant community dominated by winterfat. ***Potential vegetative composition is about 25% grasses, 5% forbs, and 70% shrubs.***

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
MG-05	See Appendix II, Figure II	6/12/2008	7.11%	Grasses 0% Forbs 1% Shrubs 62% Nonnative invasive 37%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
bottlebrush squirreltail (ELEL5)	0.03%	Trace
globemallow (SPAM)	0.06%	1%
unidentified forb (AAFF1)	0.05%	Trace
fourwing saltbush (ATCA	1.22%	11%
winterfat (KRLA)	4.14%	37%
bud sagebrush (PIDE)	1.61%	14%

Russian thistle (SATR)	4.17%*	37%
The line intercept method includes litter cover. Litter cover is 12.63%.		
Other plants present in the area but not encountered in transect: Indian ricegrass, Great Basin langloisia, and hoary tansy aster.		
*provided for information purposes, not factored into total percent cover basal/crown		

3. Analysis of Riparian Areas

No lotic (stream) or lentic (spring) riparian areas are located within this allotment, so no assessments were done. See Appendix II, Figure IV for kind and location of water sources within this allotment.

4. Licensed Livestock Use

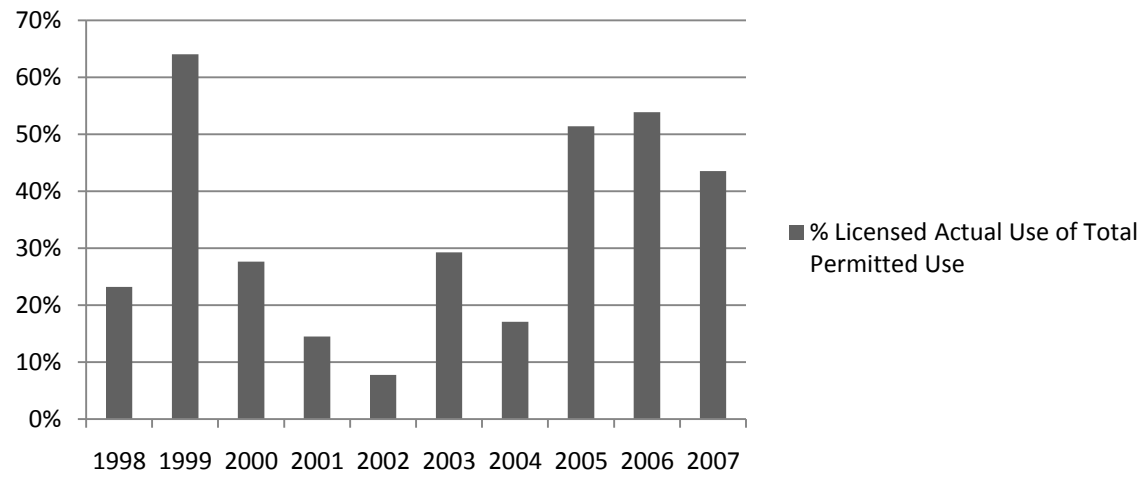
Since the implementation of the Final Multiple Use Decision, livestock licensed actual use on the allotment has varied dependent on growing conditions, available forage, and management objectives of the permittees and the BLM. Table 4-1 includes licensed actual use and percentage of licensed actual use compared to total active AUMs permitted from 1998 to 2007. The total number of active AUMs for the Murphy Gap Allotment is 1,951. Chart 4.1 combines both permittees licensed actual use compared to total active AUMs.

Table 4-1. Murphy Gap Licensed Actual Use For Sheep

Permittee	Grazing Year	Licensed Actual Use (AUMs)	% Licensed Actual Use of Total Permitted Use*
Paris Bertrand and Sons (this permit is provided for information purposes only, since it transferred to Double U Livestock L.L.C. in 2002)	1998	453	35%
	1999	675	52%
	2000	539	42%
	2001	99	8%
Double U Livestock L.L.C. (Active Use currently permitted is 1,294 AUMs)	2002	63	5%
	2003	571	44%
	2004	333	26%
	2005	772	60%
	2006	880	68%
	2007	849	66%
John Uhalde & Co. (Active Use currently permitted is 657 AUMs)	1999	574	87%
	2001	184	28%
	2002	88	13%
	2005	231	35%
	2006	171	26%

* This is based on percent of AUMs licensed for sheep use compared to the total active AUMs available for sheep grazing for this allotment. Both permittees have dual use permits for cattle and sheep, however this is contingent on criteria set forward in the Seaman FMUD. Since this criteria has not yet been met, cattle have not grazed this allotment in the past ten years.

Chart 4-1. Permittees Combined Licensed Actual Use



5. Utilization

The following is a summary of the utilization data collected on the Murphy Gap Allotment. The Final Multiple Use Decision for these allotments did not set maximum utilization on key forage species, however 50% utilization on perennial native grasses allows desirable key herbaceous species to develop above ground biomass for protection of soils, to contribute to litter cover, and to develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

Utilization is the estimation of the proportion of annual production consumed or destroyed by animals (Swanson 2006). Utilization for these allotments is determined by measuring the key forage consumed of current year's growth, and does not differentiate use by livestock and wildlife. 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).

Key forage plant utilization method (KFPM) was used to collect utilization data at the key areas. Utilization data was collected at one key area in 2002 with slight use. In 2008, utilization was collected at five key areas and ranged from no use to slight and light.

Table 5-1. Utilization Summary

Allotment	Grazing Year	Key Area	Key Species	Percent Utilization	Utilization Range

Murphy Gap	2002	MG-01	galleta	10%	slight
			Indian ricegrass	10%	slight
			bud Sage	10%	slight
	2008	MG-01	galleta	10%	slight
		MG-02	winter fat	4%	no use
		MG-03	ephedra	27%	light
			galleta	4%	no use
		MG-04	galleta	5%	no use
			black sagebrush	6%	slight
		MG-05	winter fat	6%	slight
			Indian ricegrass	14%	slight

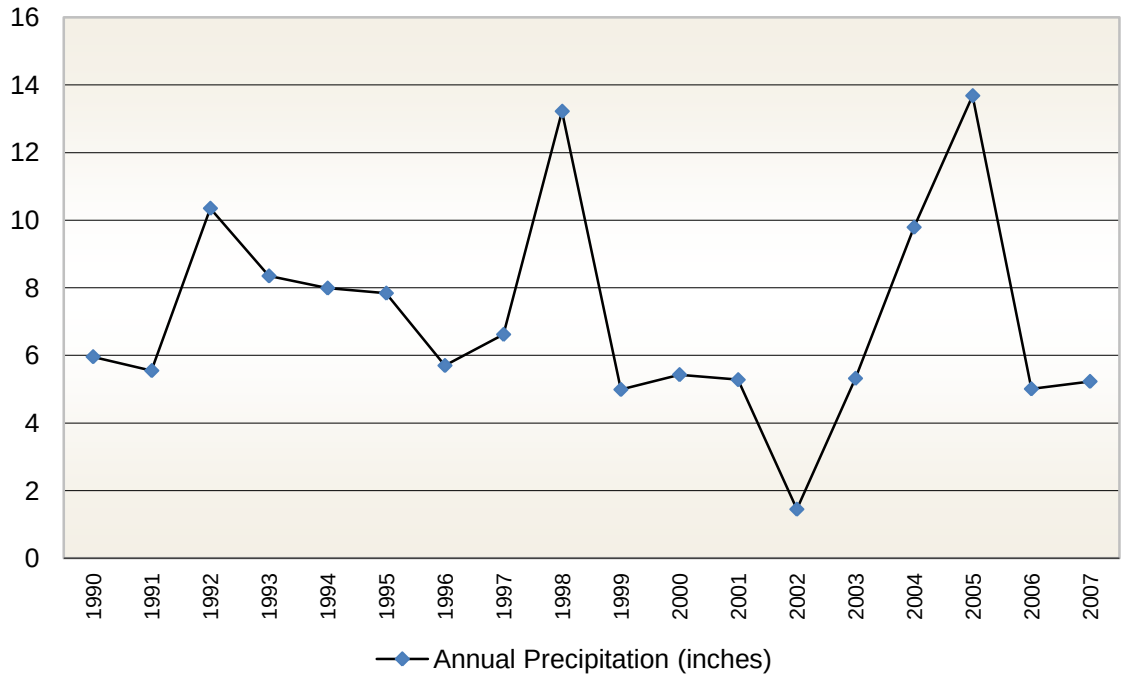
6. Precipitation data

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 for Hiko, Nevada is being used for this assessment. The table below includes annual precipitation data collected since 1990. Chart 7-1 demonstrates the trend of annual precipitation since 1990.

Table 6-1. Annual Precipitation for Hiko, Nevada

Year	Annual Precipitation (inches)	Year	Annual Precipitation (inches)
1990	5.96	2000	5.43
1991	5.55	2001	5.28
1992	10.35	2002	1.45
1993	8.35	2003	5.32
1994	7.99	2004	9.79
1995	7.84	2005	13.68
1996	5.7	2006	5.01
1997	6.62	2007	5.23
1998	13.22		
1999	4.99		

Chart 6-1. Annual Precipitation Graphed From 1990 to 2007



APPENDIX C, SECTION 2 – MAPS

Figure I. Location map for Murphy Gap Allotment.

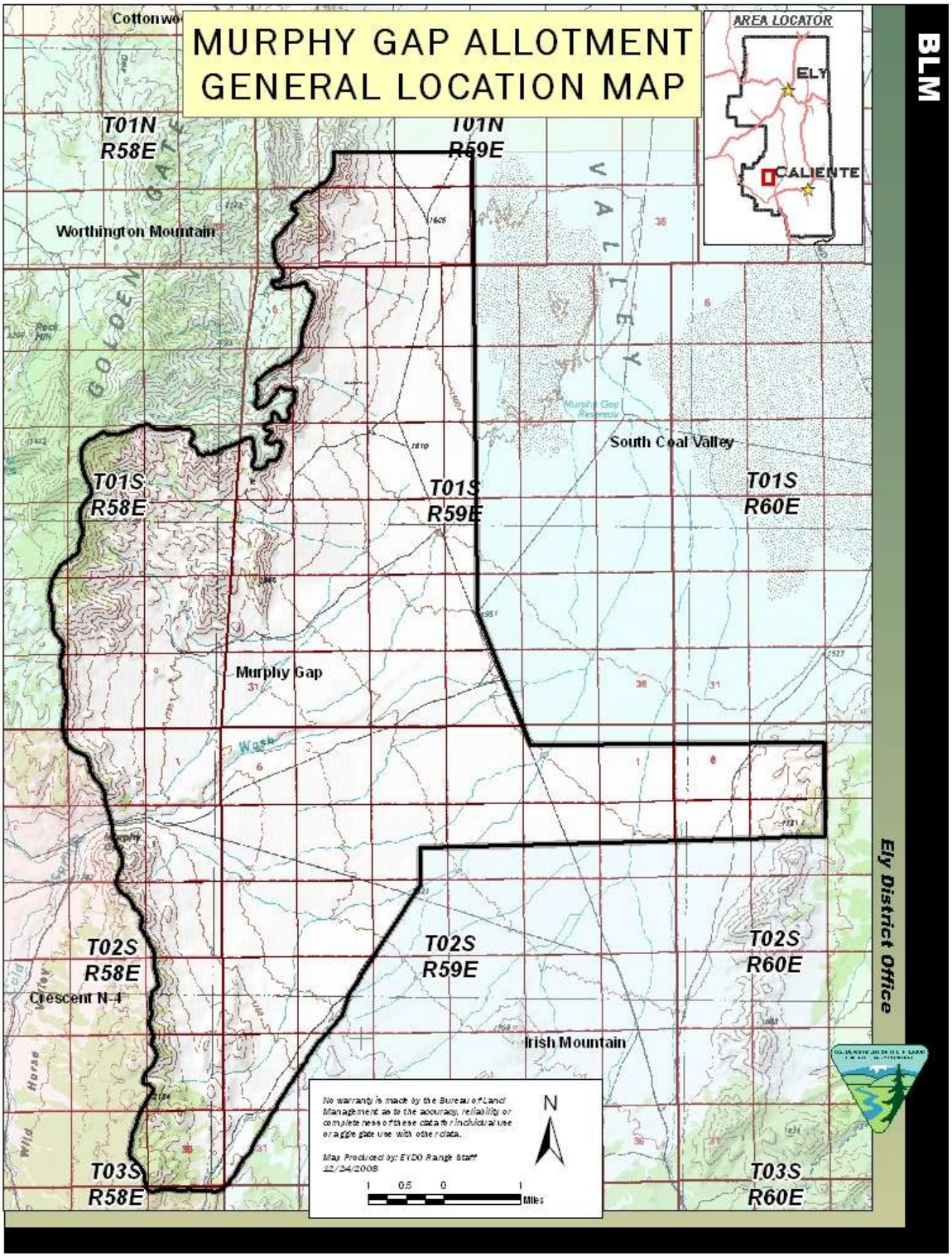


Figure II.

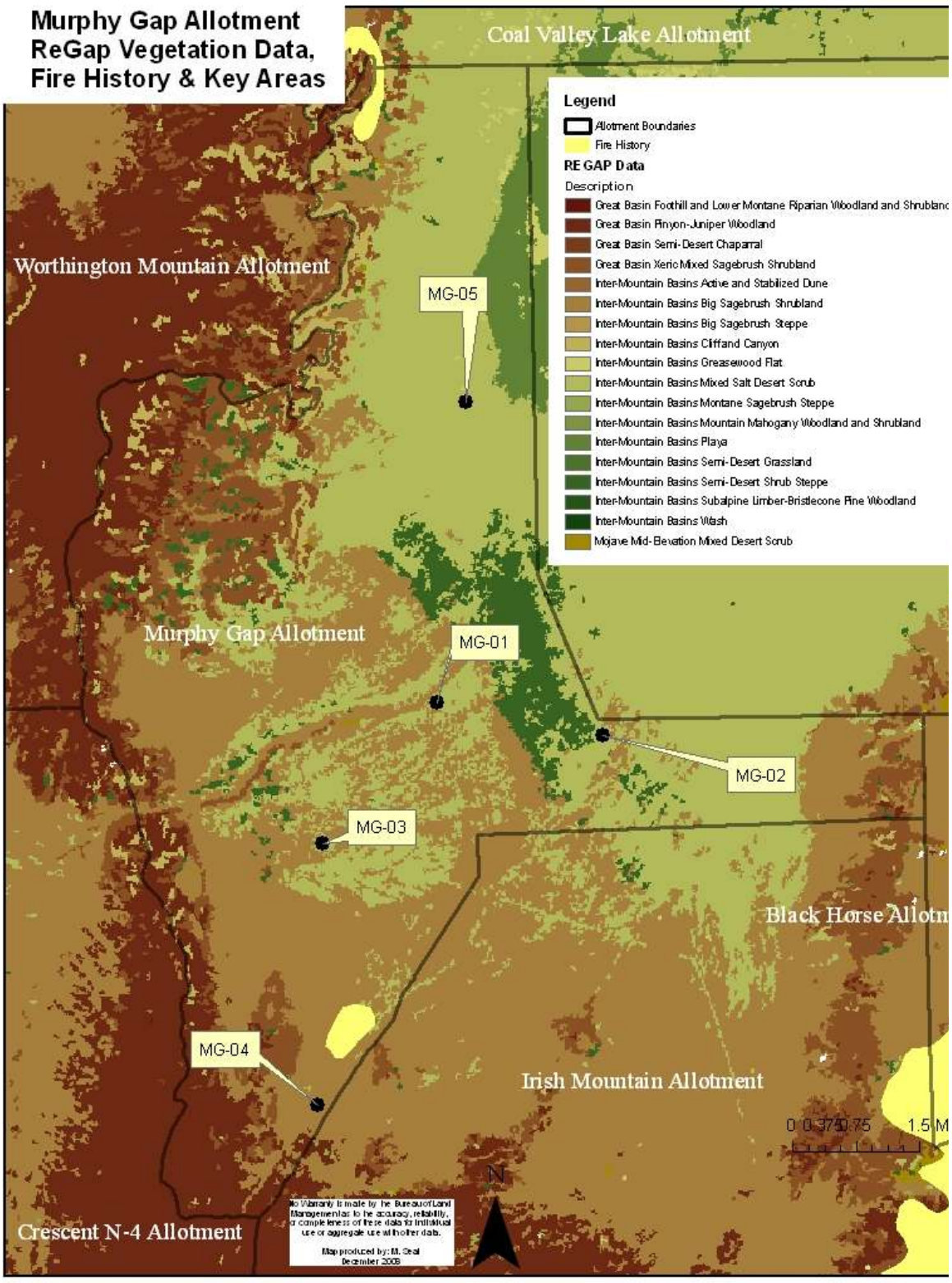
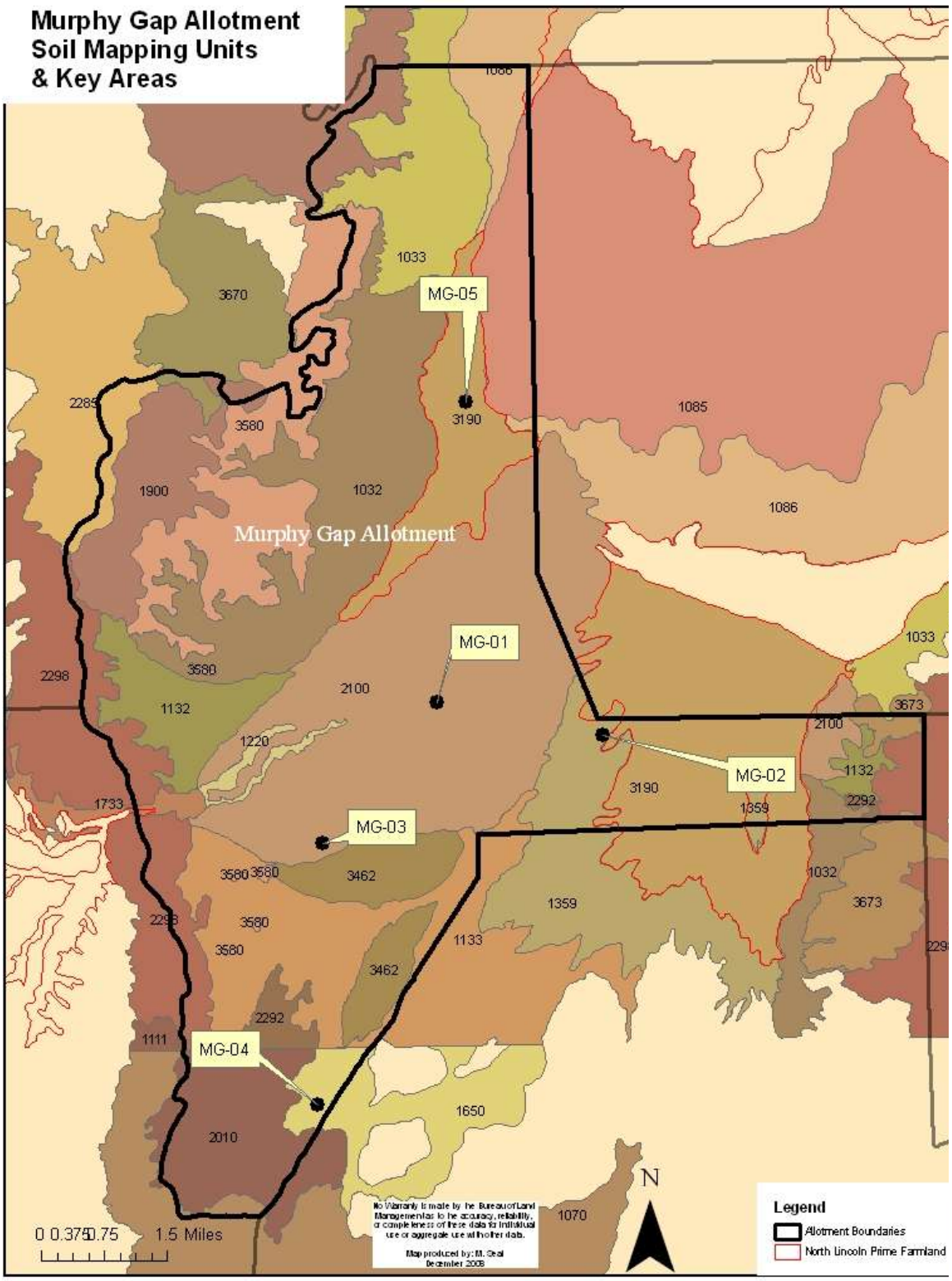

Murphy Gap Allotment
ReGap Vegetation Data,
Fire History & Key Areas
Coal Valley Lake Allotment
Legend
Allotment Boundaries
Fire History
RE GAP Data
Description
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
Great Basin Pinyon-Juniper Woodland
Great Basin Semi-Desert Chaparral
Great Basin Xeric Mixed Sagebrush Shrubland
Inter-Mountain Basins Active and Stabilized Dune
Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe
Inter-Mountain Basins Cliff and Canyon
Inter-Mountain Basins Greasewood Flat
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe
Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland
Inter-Mountain Basins Playa
Inter-Mountain Basins Semi-Desert Grassland
Inter-Mountain Basins Semi-Desert Shrub Steppe
Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland
Inter-Mountain Basins Wash
Mojave Mid-Elevation Mixed Desert Scrub
Worthington Mountain Allotment
MG-05
Murphy Gap Allotment
MG-01
MG-02
MG-03
Black Horse Allotm
MG-04
Irish Mountain Allotment
0 0.375 0.75 1.5 M
N
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
Map produced by: M. Deal
December 2008
Crescent N-4 Allotment

Figure III.


Murphy Gap Allotment
Soil Mapping Units
& Key Areas
MG-05
MG-01
MG-02
MG-03
MG-04
Murphy Gap Allotment
1033
3670
3190
1085
3580
1900
1032
1086
2298
2100
1132
1220
3673
1733
1359
2292
3462
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1650
1070
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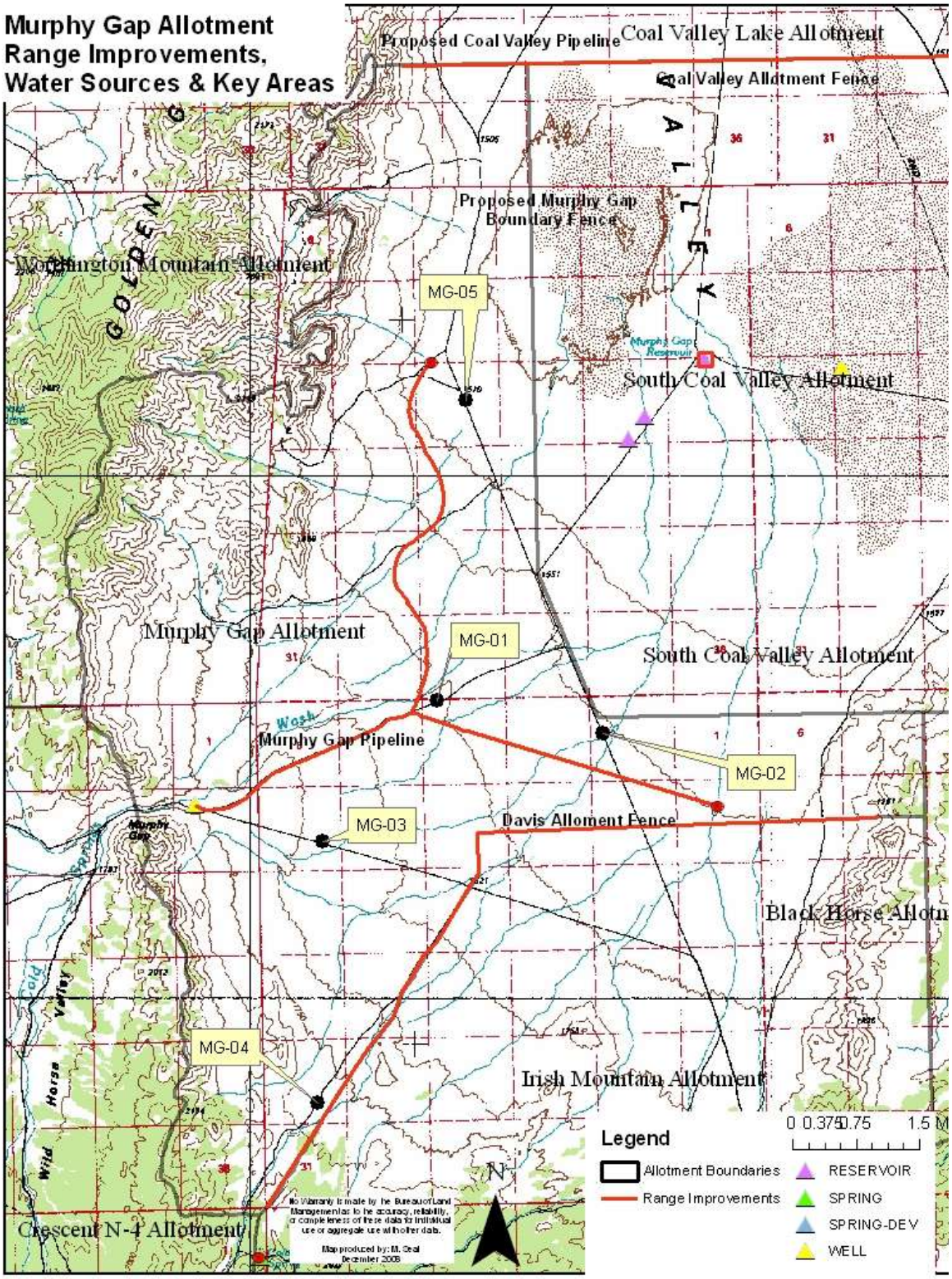
0 0.375 0.75 1.5 Miles
Legend
Allotment Boundaries
North Lincoln Prime Farmland

Figure IV.


Murphy Gap Allotment
Range Improvements,
Water Sources & Key Areas
Proposed Coal Valley Pipeline
Coal Valley Lake Allotment
Coal Valley Allotment Fence
Proposed Murphy Gap
Boundary Fence
Worthington Mountain Allotment
MG-05
South Coal Valley Allotment
Murphy Gap Allotment
MG-01
South Coal Valley Allotment
Murphy Gap Pipeline
MG-02
MG-03
Davis Allotment Fence
Black Horse Allotm
MG-04
Irish Mountain Allotment
Crescent N-4 Allotment
Legend
Allotment Boundaries
Range Improvements
RESERVOIR
SPRING
SPRING-DEV
WELL
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N

APPENDIX D – WHITE RIVER TRAIL SDD

Standards and Guidelines Assessment

The Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area were developed by the Mojave-Southern Great Basin 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 White River Trail (#11005) in the Ely BLM 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 White River Trail by a BLM interdisciplinary team consisting of rangeland management specialists, natural resource specialist, wildlife biologist, weeds specialist, ecologist, and a hydrologist. Documents and publications used in the assessment process include the Soil Survey of Nye County, Nevada, Northeast Part; Ecological Site Descriptions for Major Land Resource Area 28; 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). A complete list of references is included at the end of this document. All are available for public review in the Ely BLM 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 White River Trail encompasses approximately 19,300 public land acres (Appendix II, Figure I. General Map) and covers approximately 40 miles. This is an adjudicated trail for sheep trailing in the spring and fall. The trail located approximately 19 miles southwest of Lund, Nevada in the northeastern portion of Nye County. The trail intersects four allotments: Sheep Trail Seeding Allotment, Hardy Spring Allotment, Forest Moon Allotment, and Dry Farm Allotment. The northern half of this trail occurs within the White River Central Watershed and the southern half occurs in the Garden Valley Watershed. The trail intersects two Herd Areas (HA), White River HA and the Seaman Range (HA). However, both of these HAs was closed in 2008 by the Ely District Record of Decision/Resource Management Plan. All of the trail is located in the Quinn Sage Grouse Population Unit. The trail is within the Nevada Department of Wildlife hunting management area #13. No springs or riparian areas occur within the White River Trail boundaries, water sources are limited to wells and reservoirs. None of the White

River Trail is within wilderness; the nearest wilderness is the Grant Range Wilderness on National Forest Lands and approximately three miles west of the trail. The Sherwood Wild Fire, in 2006, is the only recent fire that has burned within the trail boundary.

Three permittees have adjudicated Animal Unit Months (AUMs) specific to this trail for spring and fall sheep trailing. The three permittees are John Uhalde & Co. (#2704736), Double U Livestock LLC (#2700046), and Blue Diamond Oil Corporation (#2704653). All three permittees hold permits in the northern portion of the Ely BLM District and the southern portion of the Ely BLM District that they alternate sheep grazing on. The White River Trail is a continuation of the two sheep trails further north, the Jakes Unit Trail and the Preston Lund Trail.

This Standards Determination Document evaluates and assesses livestock grazing management achievement of the Standards and conformance with the Guidelines for all three permittees. Based on this document, and other associated Standards Determination Documents completed for the other allotments these permittees use, new term grazing permits could be issued this year to John Uhalde & Co. (#2704736) and Double U Livestock LLC (#2700046) for a period up to ten years for their respective southern permits on the Ely BLM District. Blue Diamond Oil Corporation's permit is not being renewed this year, however future term permit renewals for the White River Trail could be considered based on this determination along with future monitoring data.

PART 1. STANDARD CONFORMANCE REVIEW

White River Trail Standards Review

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:

- Stream bank stability.

Determination:

X 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 significant contributing factor to not achieving the standard.

□ Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

Conclusion: Achieving the Standard..

UPLANDS: Rangeland monitoring and professional observation indicates that overall soil condition is currently being maintained. Soils are stable and the topsoil is holding in place.

Study site WRT-SS-01 occurs in the Kunzler, dry-Sycomat association within the 3211 SMU of the Soil Survey of Nye County, Nevada, Northeast Part. It is a loam to sandy loam with 0-4% slopes. This SMU occurs along the northern third of the trail with various sagebrush shrub communities. The ecological site for this key area is 028BY010NV. The soil surface is moderately coarse to medium textured and may be modified with a high volume of gravels, cobbles or stones. The topography is stream terraces. Soils are deep and well drained. The potential for sheet and rill erosion is moderate to high depending on slope.. The ESD suggests that approximate ground cover (basal and crown) at WRT-SS-01 should be between 10-20%. Actual cover was 31%. Wyoming sagebrush made up 22% of the cover, while Douglas rabbitbrush made up 9%. The vegetation was vigorous and appeared to assist in stabilizing soil at the site. No rilling or gullies were observed. No use was recorded at this site. Sheep had trailed through the area a week before utilization was monitored. Confirmation of sheep trailing though the area included some trampling and sheep manure present. This site meets the soil indicators for Standard 1 because it is above the recommended amount of live vegetative cover.

Study site WRT-SS-02 occurs in the Linoyer-Kunzler association within the 3974 SMU of the Soil Survey of Nye County, Nevada, Northeast Part. It is a fine sandy loam to loam with 0-4% slopes. This SMU occurs along the middle part of the trail with either winterfat vegetative communities or sagebrush shrub communities. The ecological site for this key area is 028BY010NV. The soil surface is fine sandy to moderately coarse and medium textured and may be modified with a high volume of gravels, cobbles or stones. The topography is stream terraces. Soils are deep and well drained. The potential for sheet and rill erosion is moderate to high depending on slope.. The ESD suggests that approximate ground cover (basal and crown) at WRT-SS-02 should be between 10-20%. Actual cover was 23%. Wyoming sagebrush made up 20% of the cover, while Douglas rabbitbrush made up 3%. The vegetation was vigorous and appeared to assist in stabilizing soil at the site. No rilling or gullies were observed. Slight use was recorded at this site. Sheep had trailed through the area two weeks before utilization was monitored. Confirmation of sheep trailing though the area included some trampling and sheep manure present. This site meets the soil indicators for Standard 1 because it is within the recommended amount of live vegetative cover.

A variety of soil mapping units are scattered throughout the trail including 3970, 3412, 3212, and 3310. Soil composition ranges in these units from sandy loam to gravelly loamy sand to very gravelly loam with slopes varying from 0-4% on the stream terraces and increasing to 2-8% on the alluvial fans. Runoff varies with slope and permeability of the soils. These soils appear to be stable with no recent rills or gullies observed. No study sites or key areas are established in these areas. Line intercept cover studies conducted at the two study sites on the trail demonstrate that cover is meeting the ecological site description (ESD) for both sites. Based on professional observations there is no pedestaling, rills or gullying occurring along the trail.

RIPARIAN: There are no riparian areas within the White River Trail; therefore it will not be analyzed within this document.

Standard 2. Ecosystem Components
Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- 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 acceleration 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).
    - Other covers (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.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the State water quality Standards.

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

Determination:
□ Achieving the Standard
□ Not Achieving the Standard, but making significant progress towards
X Not Achieving the Standard, and not making significant progress toward standard

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

UPLANDS: The ecological processes are not being met on the upland vegetative communities. The White River Trail runs north to south along the terrace that parallels the valley bottom and goes mainly through salt desert shrub and sagebrush shrub communities. The trail is located in the poor quality portions of these communities with very little grass and mostly shrubs. Ecological processes are defined by the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area as **"**Natural functions including the hydrologic cycle, the nutrient cycle, and energy flow (see also 43 CFR 4180.1(b))."

Salt Desert Shrub
Salt desert shrub plant communities are located at the lower elevations throughout the trail. Often these areas are dominated by salt tolerant species with sites ranging in location from the dry lake beds to mid-slope. Vegetation is characterized by four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), ephedra (*Ephedra nevadensis*), winterfat (*Krasheninnikovia lanata*), Indian ricegrass (*Achnatherum hymenoides)*, and small galleta (*Pleuraphis jamesii*). No study sites are located in these plant communities.

Sagebrush Shrub
Sagebrush shrub communities are found at higher elevations on the terraces of where this trail follows. These communities are characterized by Wyoming sagebrush (*Artemisia*

tridentata var. wyomingensis), spiny hopsage (*Grayia spinosa)* and/or black sagebrush (*Artemisia nova)* which may be accompanied by an assortment of perennial native bunch grasses such as Indian ricegrass, squirreltail (*Elymus elymoides*), *Poa* spp., needleandthread (*Hesperostipa comata*), small galleta (*Hilaria jamesii*) etc. Two study sites are located in sagebrush shrub communities and based on cover studies, both study sites had 100% shrub composition.

In the sagebrush shrub communities along the trail the lack of perennial grasses is impacting nutrient cycling within these plant communities by not providing the appropriate inputs of organic matter to the surface soil layer. The lack of native perennial grasses affects the input of organic matter for soil biota. Although the shrubs are contributing to the soil biota and nutrient cycling is occurring in the soil, a more diverse composition of vegetation that includes perennial grasses would increase nutrient cycling and influence soil development. However, all other natural functions including the hydrologic cycle and energy flow are stable with the deep rooted shrubs, maintaining these ecological processes.

Key forage plant utilization method (KFPM) was used to collect utilization data at the two study sites in 2008. This data showed only slight utilization at one site. The trail is only grazed by sheep for a few weeks in the spring and fall, with most use occurring in the fall. Invasive nonnative plants are currently not an issue within these communities, but the lack of grasses indicates that the ecological processes are not adequate for these vegetative communities. One of the components missing at these sagebrush sites is the fire disturbance cycle which may be preventing these communities from maintaining a diverse grass understory.

RIPARIAN: The Standard is not assessed for the White River Trail.

Standard 3. Habitat and Biota:
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
X Not Achieving the Standard, not making significant progress toward standard

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

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

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

Rangeland monitoring (including professional observations, line intercept studies, and key forage plant utilization) show habitat conditions throughout a large portion of the trail are not exhibiting a healthy and productive plant community with suitable habitat for wildlife. The same problems identified in Standard 2 also indicate that plant composition is not appropriate to the ecological sites. The two study sites in the sagebrush communities provide adequate cover, but there is a lack of perennial grasses to provide suitable feed for wildlife. No threatened and endangered species have been identified in this allotment so no specific habitat conditions are needed to meet a specified life cycle requirement.

There is one sensitive plant species, White River catseye (*Cryptantha welshii*), and two sensitive animal species, pygmy rabbit (*Brachylagus idahoensis*) and greater sage-grouse (*Centrocercus urophasianus*), that occur within the trail boundaries. Direct observations for two of these species are delineated on a map (see Appendix II, Figure 2). The proper ecological elements of cover and forage needed by many wildlife species, particularly the high profile BLM Sensitive Species of greater sage-grouse and pygmy rabbit are not currently supported along the trail.

White River catseye is a species of concern for U.S. Fish and Wildlife Service and a Special Status Species for BLM. Located in "dry, open, sparsely vegetated outcrops", White River catseye "appears to tolerate or even increase with transient disturbances within its habitat, such as animal trampling and roadside maintenance (Nevada Natural Heritage Program)". Based on White River catseye's habitat requirements it is meeting its life cycle requirements and livestock may be having a positive impact on its environment.

Pygmy rabbit is listed as a species of special concern in Nevada and a Special Status Species for BLM. Pygmy rabbits are typically found in areas of tall, dense sagebrush (*Artemisia spp.)* cover, and are highly dependent on sagebrush to provide both food and shelter throughout the year. Their diet in the winter consists of up to 99 percent sagebrush. Pygmy rabbit burrows are typically found in relatively deep, loose soils of wind-borne or water-born origin. They occasionally make use of burrows abandoned by other species and as a result, may occur in areas of shallower or more compact soils that

support sufficient shrub cover. Based on pygmy rabbits' habitat requirements it is meeting its life cycle requirements and livestock grazing on the White River Trail doesn't appear to be having a negative impact.

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). One lek is within three miles of the trail. This lek has not been monitored and no survey data is available. Portions of the trail occurs in nesting, brooding and winter sage grouse habitat.

Issues identified in Standard 2 for not meeting the Standard may also be contributing to not meeting Standard 3. Utilization studies conducted on the trail showed livestock grazing to be within proper use levels and the trail is rested from sheep during most of the critical spring growth period. Most trail use occurs in the late fall for approximately a month. Livestock are removed during part of the critical spring growing period allowing key forage vegetation to complete the phenological cycle each year and maintain existing forage and cover for wildlife.

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

White River Trail Standards Summary Review

Standard #1: Soils
Achieving the Standard.

Standard #2: Ecosystem Components
Not achieving the Standard, and not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Standard #3: Habitat and Biota
Not achieving the Standard, and not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

White River Trail Guideline Conformance Review and Summary
Grazing is in conformance with all applicable Guidelines as provided in the Mojave-Southern Great Basin Standards and Guidelines. Based on a review of the monitoring data presented in this determination, current livestock grazing management practices in the White River Trail are in conformance with the Guidelines for Livestock Grazing Management. Permittees are proactively adjusting grazing based on available forage.

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

Discussion:
Current management practices including moderate or less utilization, and limited grazing during the spring and fall are helping this allotment to achieve Standard 1. It was determined that Standard 2 and 3 are not being achieved and are not making progress toward achieving these standards. The reason for a determination of not making progress is due to the lack of previous data to compare progress to for the White River Trail.

John Uhalde & Co. uses this grazing permit as part of their southern operation for (winter) grazing from late fall to early spring for both sheep and cattle. The permittee trails sheep south in the fall and moves sheep into Batterman Wash Allotment. The permittee uses all of the allotments for sheep grazing and rotates use through herding. The permittee can trail north in the spring using the same trail, but sometimes transports the sheep herd to their northern allotments by truck. The permittee transports their cattle herd south by truck and rotates use on Batterman Wash Allotment and Worthington Mountain Allotment using water to control and rotate use. In the spring cattle are transported back to the northern allotments by truck.

The term "southern permit" is used only as a reference to help clarify which term permit is being renewed with regard to this permittee. Since this permittee also holds a separate grazing permit for allotments in the northern portion of the Ely BLM District, the southern permit is only grazed from late fall to mid spring. The term "southern permit(s)" will not be included on the actual permit, since the permit numbers identify this differentiation.

Recommendations for White River Trail:

Recommendations include the continuation of all desirable livestock management practices currently being implemented for this trail. Establish utilization levels for this trail for key forage species. Continue rangeland monitoring of this trail for livestock compliance with proper allowable use levels.

Recommendations that should be considered for inclusion in all three permittees' terms and conditions:

1. Establish maximum allowable use levels as follows:

- **Perennial grasses: not to exceed 50% of 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) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- **Perennial shrubs and half-shrubs: 45% use on current year's growth.** ***This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.***

2. <u>Livestock would be moved to another authorized pasture or removed from the trail before utilization objectives are met or no later than 5 days after meeting the utilization objectives.</u> Any deviation in livestock movement would require authorization from the authorized officer.

3. Continue terms and conditions identified for this allotment in the 1996 Final Multiple Use Decision (FMUD) for the Seaman Herd Management Area and the 1996 FMUD for Sunny Side and Hardy Springs Allotments.

4. Salt and/or mineral supplements for livestock should be located no closer than ½ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock.

5. Wildlife escape ramps would be inspected and maintained by the permittee at each trough used on the allotment (permanent or temporary).

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USDI – BLM. 2000. Interpreting Indicators of Rangeland Health. Version 3. Technical Reference 1734-6. BLM/WO/ST-00/001-734. National Science and Technology Center Information and Communications Group, Denver, Colorado.

USDI – BLM. 2008. Integrated Vegetation Management Handbook H-1740-2

Prepared by:

Mindy Seal, Rangeland Management Specialist (SCEP)	Date

Reviewed by:

Bonnie Million Noxious and invasive non-native species	Date
Ruth Thompson Wild horses and burros	Date
Alicia Styles Wildlife/migratory birds/special status animals/plants	Date
Gina Jones Ecology	Date
Mark D'Aversa Soil/Air/Water	Date

I concur:

Chris Mayer
Supervisory Rangeland Management Specialist
Egan Field Office

Date

Jeffrey Weeks
Field Manager
Egan Field Office

Date

APPENDIX D, SECTION 1 – DATA ANALYSIS

1. Review of Final Multiple Use Decisions

Four Final Multiple Use Decisions (FMUD) were reviewed during the analysis of the White River Trail, along with current data:

- The 1996 FMUD for Forest Moon Allotment and the 1997 FMUD that included Sheep Trail Seeding Allotment did not incorporate information or management actions regarding White River Trail.
- 1996 FMUD for Sunnyside and Hardy Springs Allotments included changes in the location of the White River Trail where permittee Blue Diamond Oil Corporation trails through the Sunnyside Allotment to access the Fox Mountain Allotment.
- 1996 FMUD for those "Allotments Located within the Seaman Herd Management Evaluation Area" (Seaman FMUD) included the permitted use on the White River Trail for Double U Livestock LLC and John Uhalde & Co.

2. Study Sites, Location, Vegetative Cover and Composition

Study sites may include critical areas and key areas. For the purpose of this data the study sites selected along the White River Trail were selected for the same purpose as a key area would be selected. 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 study sites, if properly selected, reflect the current grazing management over the pasture or allotment as a whole or a study site may be selected to identify a particular concern (NRCS 1997). Study sites may be key areas that represent range conditions, trends, seasonal degrees of use, and resource production and values.

Ecological Sites are interpretive units into which landscapes of native vegetation are separated for study, evaluation, and management. An ecological site, as defined for rangeland, 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). The ecological site of a key area is determined based on several factors including soil mapping unit, topography, and plant community.

The Line Intercept Cover Study is a commonly used method of estimating the relative percent live foliar cover of a range site by plant class (tree, shrub, grass, forb, or annual). The method also estimates the percent live foliar cover by plant species. The results are then compared to the appropriate cover for each range site as indicated by the Natural Resources Conservation Service (NRCS) ecological site descriptions. Results are also compared to what is known about healthy rangelands in general.

Table 2-1. Study Sites Summary Table

Date	Key Area	Ecological Site	Cover in 2008 (%)	*Potential Cover (%)
11/21/2008	WRT-SS-01	**028BY010NV**	33%	10% to 20%
11/26/2008	WRT-SS-02	**028BY010NV**	23%	10% to 20%

*Based on ecological site descriptions.

Listed in Table 2-2 is a summarized description of the ecological site within the White River Trail where the two study sites were established and monitored using the line intercept cover study method. Included in this list is the associated soil description, precipitation zone, and the plant community composition and cover. Data collected for each study site regarding vegetative cover and vegetative composition is summarized within this table.

Recent data collected at the study sites demonstrates that cover is being met at both sites. Please note that no invasive annuals were recorded at either site. Both sites were composed of shrubs only. This may be due to the timing of when the data was collected. Both of these sites demonstrate a change in plant dynamics were the plant community has deteriorate to shrub only and limited the quality of habitat and forage. The lack of grasses at both these sites may one of the reasons the trail follows this route, rather than the trail going through more productive areas. Over time this deterioration could allow nonnatives to invade and if a disturbance occurred, such as fire, the historical plant community would not be resilient in its recovery.

Table 2-1. Study Site WRT-SS-01 Vegetative Cover Data

Summarized Ecological Site Description for 028BY010NV: Loamy 8-10" P.Z. (precipitation zone) Soils are moderately deep to deep and well drained. Surface soils are moderately coarse to medium textured and may be modified with a high volume of gravels, cobbles or stones. The potential for sheet and rill erosion is moderate to high depending on slope. ***Approximate ground cover (basal and crown) is about 10–20 percent.*** Plant community dominated by Wyoming big sagebrush. ***Potential vegetative composition is about 50% grasses, 5% forbs, and 45% shrubs.***				
Key Areas	**Location**	**Date Monitored**	**Total Percent Cover Basal/Crown**	**Percent Composition Based on Cover By Groups**
WTR-SS-01	See Appendix II, Figure II	11/21/2008	31%	Grasses 0% Forbs 0% Shrubs 100%
Plant Species Common Name (Plant Symbol)		**Percent Cover Basal/Crown**		**Percent Composition Based on Cover**
Wyoming sagebrush (ARTRW)		22%		71%
Douglas rabbit brush (CHVI)		9%		29%
The line intercept method includes litter cover. Litter cover is 5%*.				
No other plants were present in the area.				

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
WRT-SS-02	See Appendix II, Figure II	11/26/2008	23%	Grasses 0% Forbs 0% Shrubs 100%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
Wyoming sagebrush (ARTRW)	20%	86%
Douglas rabbit brush (CHVI)	3%	14%
The line intercept method includes litter cover. Litter cover is 5%*.		
No other plants present in the area.		
*provided for information purposes, not factored into total percent cover basal/crown		

3. Analysis of Riparian Areas

No lotic (stream) or lentic (spring) riparian areas are located within the White River Trail, so no assessments were done. See Appendix II, Figure IV for kind and location of water sources within this trail.

4. Licensed Livestock Use

Livestock licensed actual use on the White River Trail has varied dependent on growing conditions, available forage, and management objectives of the permittees and the BLM. Table 4-1 includes licensed actual use and percentage of licensed actual use compared to total active AUMs permitted from 1999 to 2007. The total number of active AUMs for the White River Trail is 1,505. Chart 4.1 combines all three permittees licensed actual use compared to total active AUMs. Also, since this is a trail with seasonal use, the spring and fall use has been compared in Chart 4-2. Over the past several years the majority of AUMs for this trail were used in the fall to trail ewes south after the lambs were weaned. Some of the permittees have opted to truck the ewes in the spring rather than trail since the ewes are close to lambing at this time.

Table 4-1. White River Trail Licensed Actual Use For Sheep

Permittee	Grazing Year	Licensed Actual Use (AUMs)	% Licensed Actual Use of Total Permitted Use*
PARIS, BERTRAND AND SONS (this permit is provided for information purposes only, since it transferred to Double U Livestock L.L.C. in 2002)	1999	109	45%
	2000	197	81%
DOUBLE U LIVESTOCK L.L.C.	2003	123	51%
	2004	74	31%
	2005	144	60%
	2006	252	104%
	2007	112	46%

JOHN UHALDE & CO	2000	64	11%
	2001	224	37%
	2004	83	14%
	2005	59	10%
	2006	79	13%
	2007	105	18%
BLUE DIAMOND OIL CORPORATION	2001	36	5%
	2002	89	13%
	2003	61	9%
	2004	29	4%
	2005	103	16%
	2006	126	19%
	2007	53	8%

* This is based on percent of AUMs licensed for sheep use compared to the total active AUMs available to each permittee for sheep grazing for this trail.

Chart 4-1. White River Trail Permittees Combined Licensed Actual Use

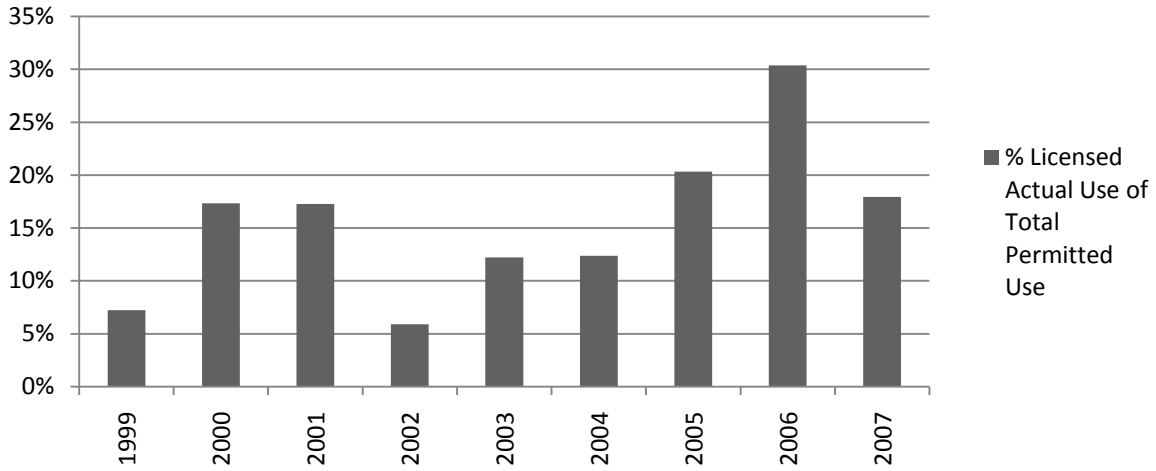
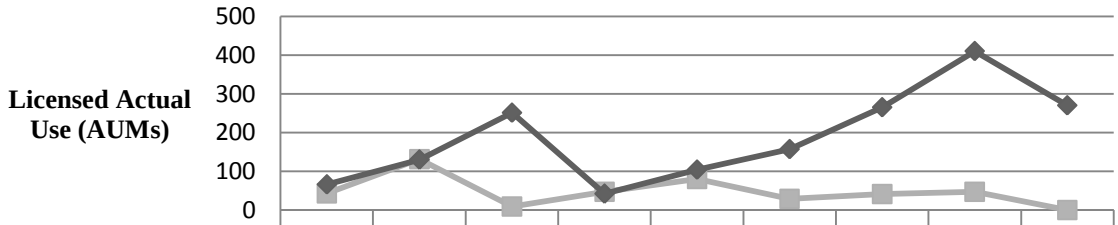


Chart 4-2. Comparison of Total AUMs Used Annually by Season



Grazing Yr.	1999	2000	2001	2002	2003	2004	2005	2006
Spring (AUMs)	43	131	9	47	80	29	41	47	0
Fall (AUMs)	66	130	251	42	104	157	265	410	270

5. Utilization

The following is a summary of the utilization data collected on the White River Trail. The Final Multiple Use Decisions for this trail did not set maximum utilization on key forage species, however 50% utilization on perennial native grasses allows desirable key herbaceous species to develop above ground biomass for protection of soils, to contribute to litter cover, and to develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

Utilization is the estimation of the proportion of annual production consumed or destroyed by animals (Swanson 2006). Utilization for these allotments is determined by measuring the key forage consumed of current year's growth, and does not differentiate use by livestock and wildlife. 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).

Key forage plant utilization method (KFPM) was used to collect utilization data at the key areas. In 2008, utilization was collected at both study sites after the sheep had trailed through in the fall and ranged from no use to slight.

Grazing Year	Key Area	Key Species	Percent Utilization	Utilization Range
2008	WRT-SS-01	Wyoming sagebrush	0%	no use
2008	WRT-SS-02	Wyoming sagebrush	3%	slight

6. Precipitation data

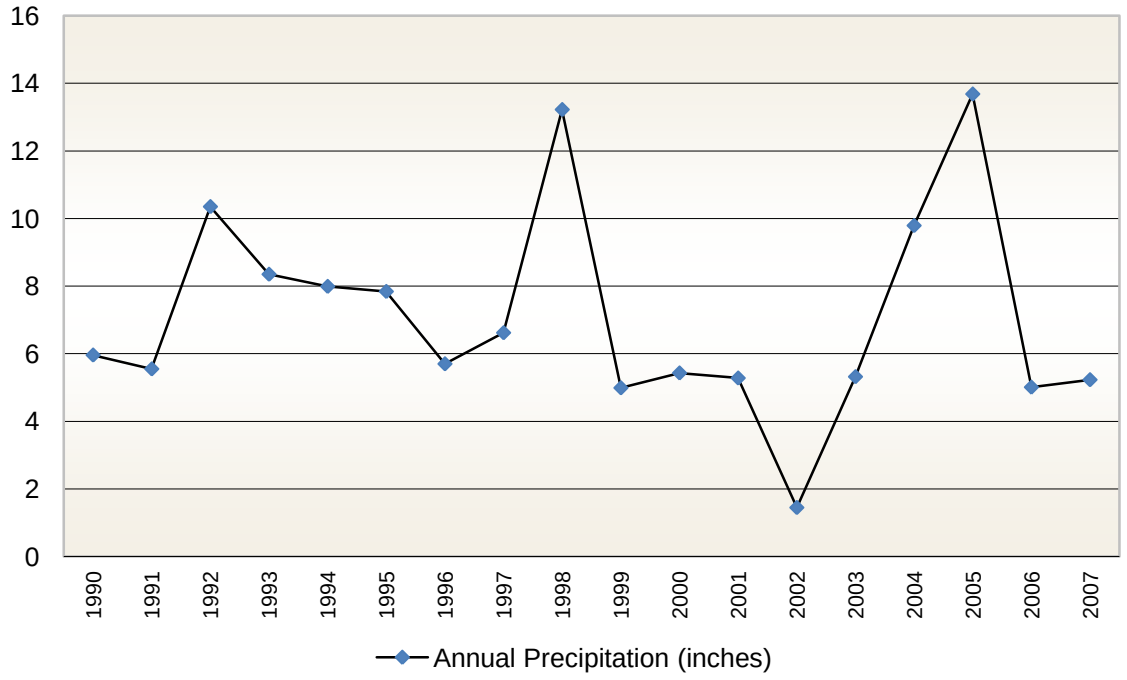
Annual precipitation greatly influences growing condition of forage species and is often correlated to available forage. Historical climate data from the Western Regional Climate Center for Hiko, Nevada is being used for this assessment. The table below includes annual precipitation data collected since 1990. Chart 7-1 demonstrates the trend of annual precipitation since 1990.

Table 6-1. Annual Precipitation for Hiko, Nevada

Year	Annual Precipitation (inches)	Year	Annual Precipitation (inches)
1990	5.96	2000	5.43
1991	5.55	2001	5.28
1992	10.35	2002	1.45
1993	8.35	2003	5.32

1994	7.99	2004	9.79
1995	7.84	2005	13.68
1996	5.7	2006	5.01
1997	6.62	2007	5.23
1998	13.22		
1999	4.99		

Chart 6-1. Annual Precipitation Graphed From 1990 to 2007



APPENDIX D, SECTION 2 – MAPS

Figure I.

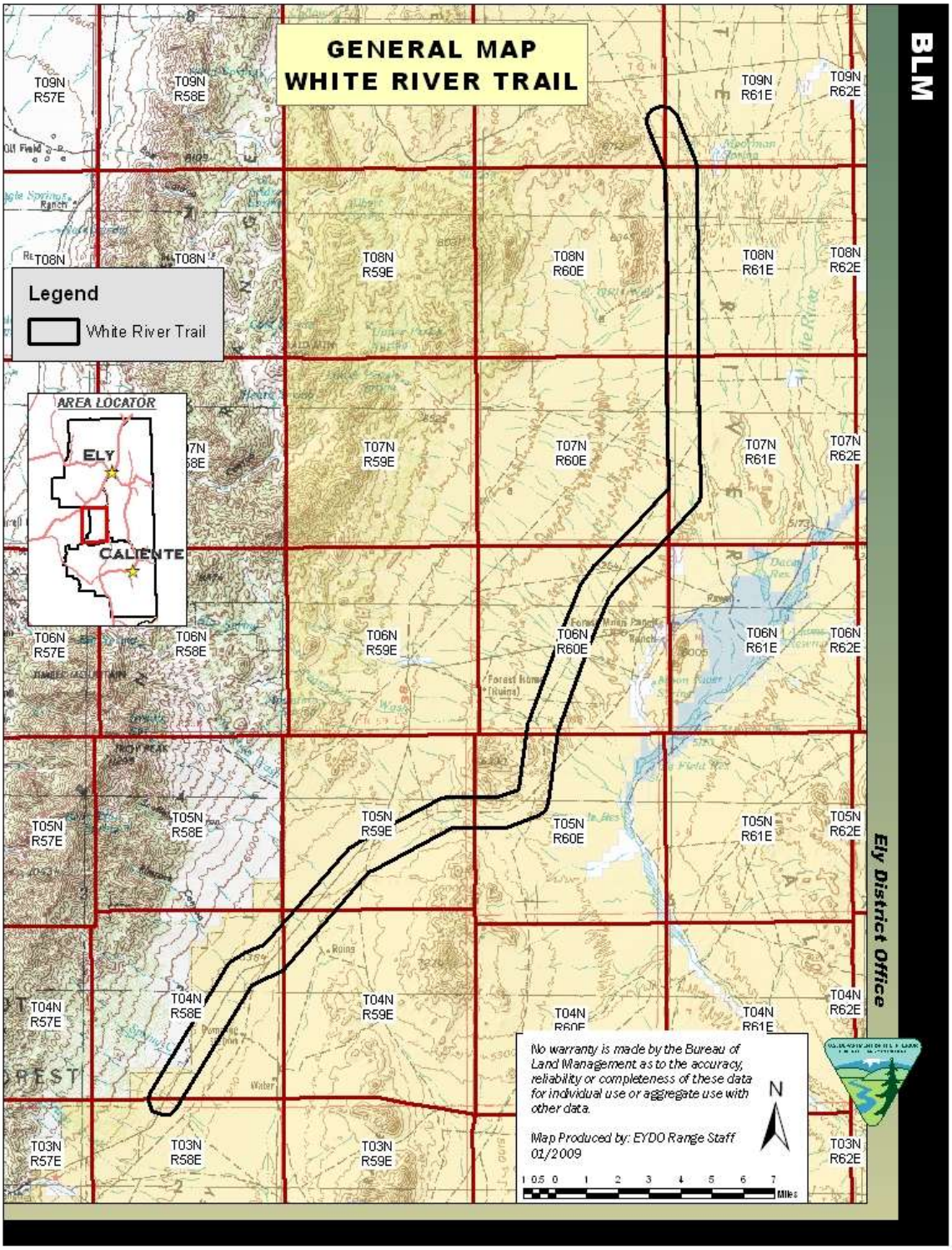


Figure II.

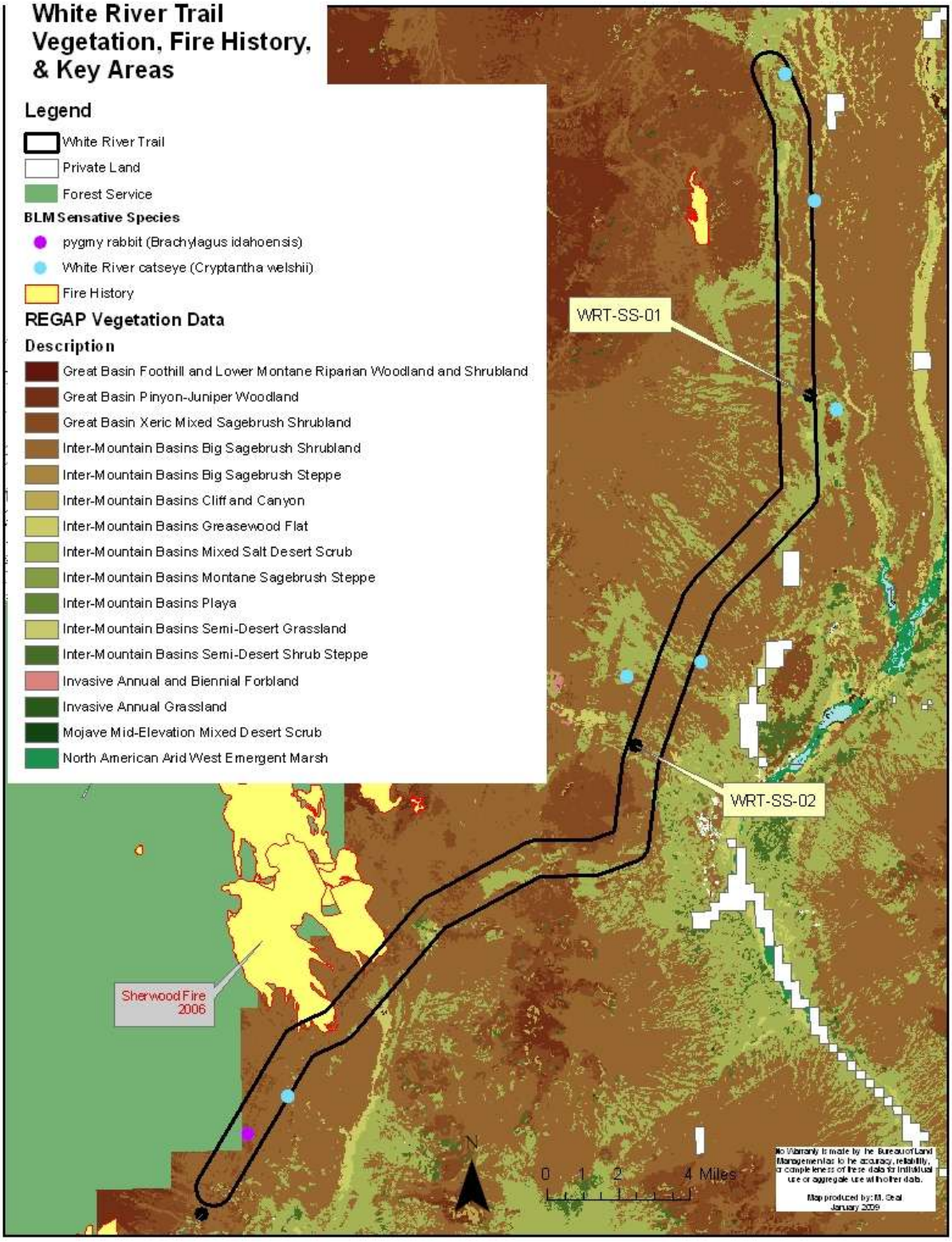
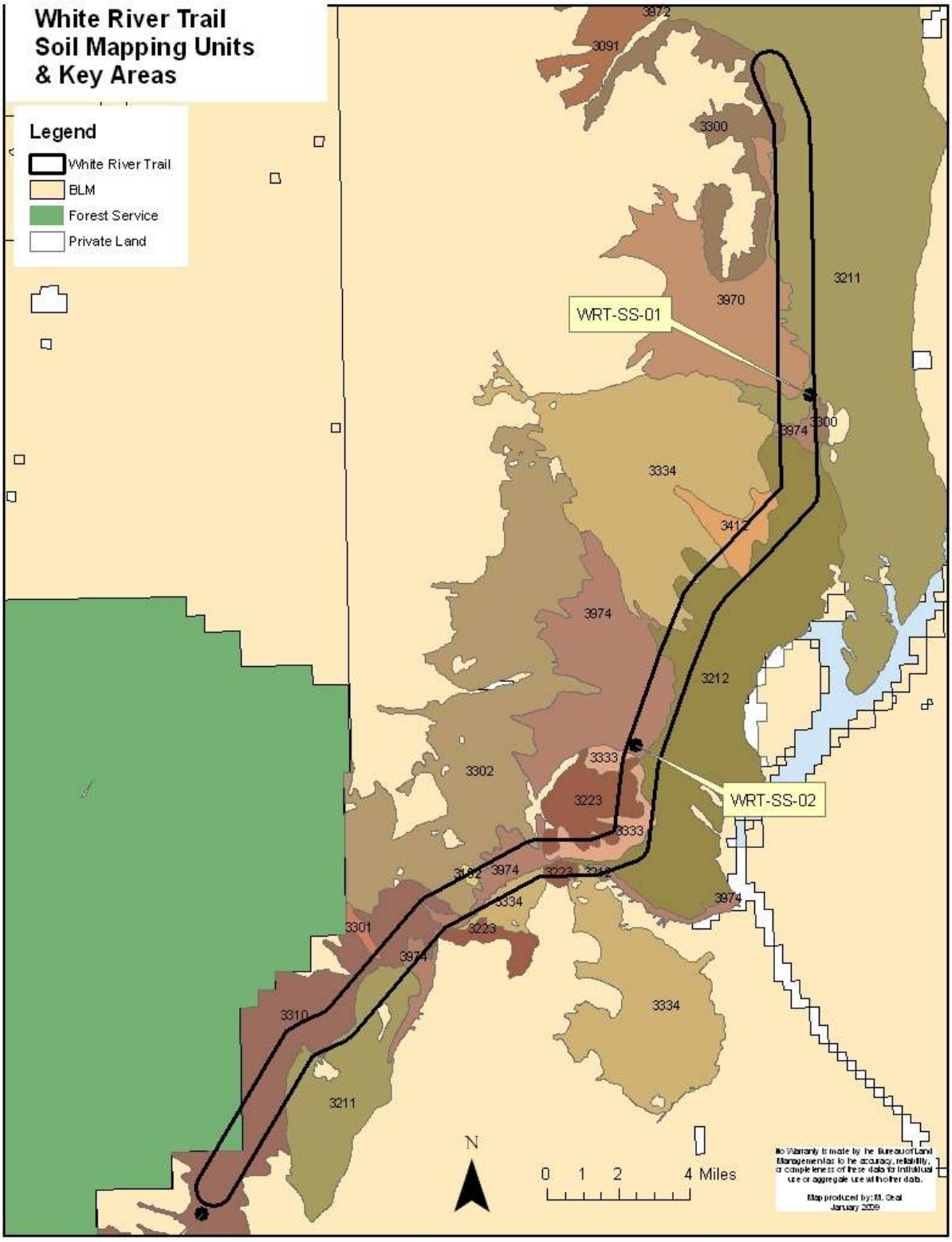

White River Trail
Vegetation, Fire History,
& Key Areas
Legend
White River Trail
Private Land
Forest Service
BLM Sensative Species
pygmy rabbit (Brachylagus idahoensis)
White River catseye (Cryptantha welshii)
Fire History
REGAP Vegetation Data
Description
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
Great Basin Pinyon-Juniper Woodland
Great Basin Xeric Mixed Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe
Inter-Mountain Basins Cliff and Canyon
Inter-Mountain Basins Greasewood Flat
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe
Inter-Mountain Basins Playa
Inter-Mountain Basins Semi-Desert Grassland
Inter-Mountain Basins Semi-Desert Shrub Steppe
Invasive Annual and Biennial Forbland
Invasive Annual Grassland
Mojave Mid-Elevation Mixed Desert Scrub
North American Arid West Emergent Marsh
WRT-SS-01
WRT-SS-02
Sherwood Fire
2006
N
0 1 2 4 Miles
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
Map produced by: M. Geal
January 2009

Figure III.


White River Trail
Soil Mapping Units
& Key Areas
Legend
White River Trail
BLM
Forest Service
Private Land
WRT-SS-01
WRT-SS-02
3972
3091
3300
3211
3970
3974
3334
3974
3212
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3302
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N
0 1 2 4 Miles
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
Map produced by: M. Geal
January 2009

Figure IV.

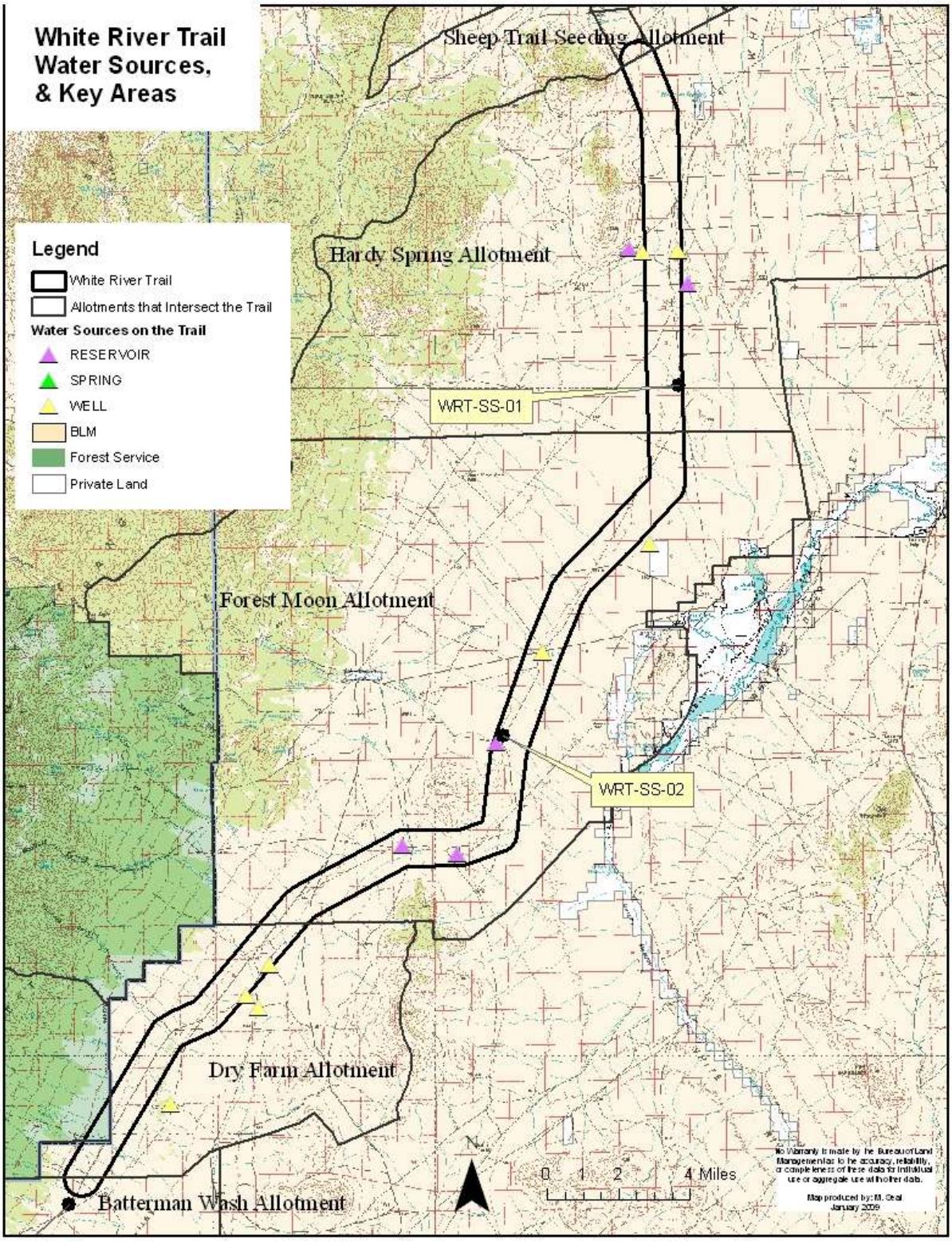
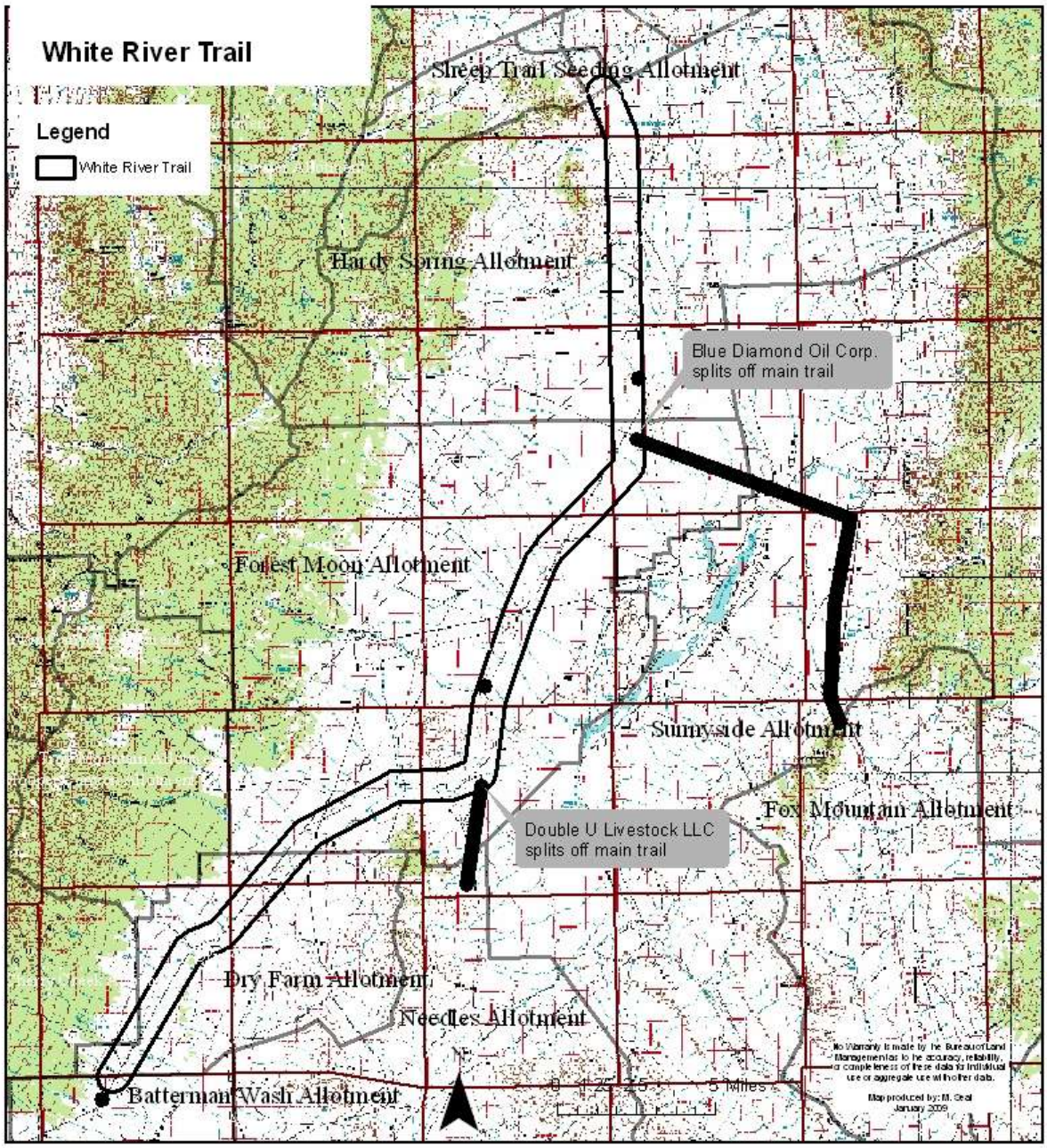

White River Trail
Water Sources,
& Key Areas
Legend
White River Trail
Allotments that Intersect the Trail
Water Sources on the Trail
RESERVOIR
SPRING
WELL
BLM
Forest Service
Private Land
Sheep Trail Seeding Allotment
Hardy Spring Allotment
WRT-SS-01
Forest Moon Allotment
WRT-SS-02
Dry Farm Allotment
Batterman Wash Allotment
0 1 2 4 Miles
Map produced by: M. Geal
January 2009

Figure V.



This map depicts approximately where permittees split from the main segment of the White River Trail. Please note that all three permittees have adjudicated AUMs for the White River Trail until they reach their own allotments.
- Blue Diamond Oil Corp. splits off at approximately T7N, R61E and trails across Sunnyside Allotment to Fox Mountain Allotment (part of their permit).
- Double U Livestock splits off at T5N, R60E to go to the Needles Allotment; or trails into the Dry Farm Allotment (part of their permit).
- John Uhalde & Co. goes to the end of the trail and enters the Batterman Wash Allotment (part of their permit).

Reference Only – Internal and Public Review Completed in 2008

STANDARDS DETERMINATION DOCUMENT

Varlin S. Higbee, Higbee Brothers and Nolan Shumway Permits
South Coal Valley, Black Bluff and Black Horse and White River Allotments
EA NV-045-08-002

Standards and Guidelines Assessment

The Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area were developed by the Mojave-Southern Great Basin 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 South Coal Valley, Black Bluff and Black Horse Allotments in the Ely BLM District. This document does not evaluate or assess achievement of the wild horse and burro or Off Highway Vehicle Standards or conformance to the respective Guidelines.

The standards were assessed for the South Coal Valley, Black Bluff and Black Horse Allotments by a BLM interdisciplinary team consisting of rangeland management specialists, wildlife biologist, weeds specialist, and watershed specialist. Documents and publications used in the assessment process include the Soil Survey of Lincoln County Nevada, Ecological Site Descriptions for Major Land Resource Area 29. 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). A complete list of references is included at the end of this document. All are available for public review in the Caliente BLM Field Station. The interdisciplinary team used rangeland monitoring data, professional observations, and photographs to assess achievement of the Standards and conformance with the Guidelines.

PART 1. STANDARD CONFORMANCE REVIEW

Evaluation and Determination of Rangeland Health Standards for the South Coal Valley Allotment.

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:

- Stream bank stability.

Determination:

□ Meeting the Standard

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

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

Causal Factors

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

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

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

Guidelines Conformance:

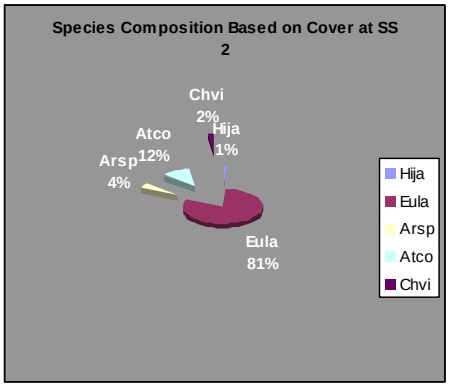
□ In conformance with the Guidelines

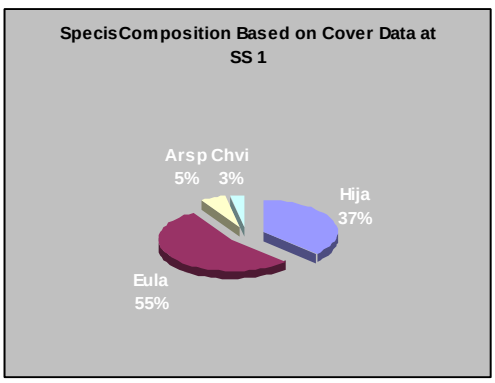
X **Not in conformance with the Guidelines**

Conclusion: Standard Not Achieved

Valley soils are generally salt and sodium affected in the upper profile. A seasonably high water table is generally present. Soils are occasionally flooded for brief periods in spring. The surface layer of clay solid will crust and bake upon drying, inhibiting water infiltration and seedling emergence. Due to the saline condition of soils, seed viability, germination, and water holding capacity is reduced. Slow runoff and ponding in depressional areas is common.

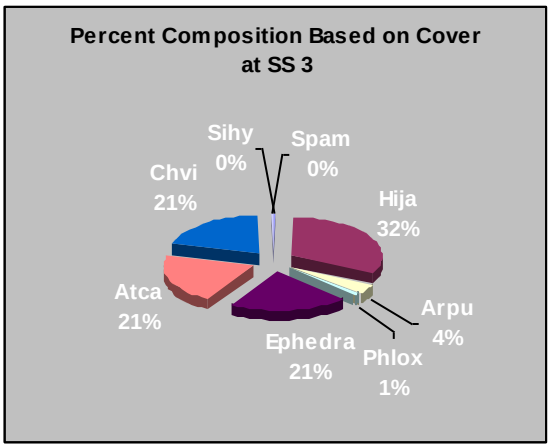
The soils on the valley terrace and benches are gravelly silts, gravelly sandy loams, sandy loams, gravelly loams, or loams. The NRCS is currently in the process of finalizing soil mapping for the Coal Valley area. UPLANDS: The ecological site for Key Area 1 and 2 is a Course Silty 5-8" P.Z. 029XY042NV – Winterfat/Indian Ricegrass community. The





approximate potential ground cover (basal and crown) according to the range site is 10-20%. Vegetative cover collected at Key Areas 1 is deficient compared to the Rangeland Ecological Site Description (NRCS).

The native cover at Key Area 1 was measured at 6%. One perennial native grass specie small galleta accounted for a total of 37% of the composition and represented 30% of the total cover measured while three perennial native shrubs accounted for 65% cover. Winterfat represented the majority of the vegetative cover.
At Key Area 2, there was 10.3% vegetative cover. Shrubs represent 99% of the cover and grasses represent 1% with no forbs contributing to cover measurements. Winterfat was again the major dominant species with 81% cover.



Cover was better at Key Area 3 which had 18.9% cover. The ecological site is a Course Silty 5-8" p.z. – 029XY017NV – Shadscale/Budsage/Ricegrass. Potential cover is 15-25%. Cover is very good for the potential of the site. The site is dominated by Shadscale which accounted for 21% of the cover.

Composition at Key Area 3 based on cover is represented as 63% shrubs with 36% herbaceous perennials with 1% forbs. Rabbitbrush, Shadscale and Ephedra all composed 21% of the composition while Small galleta composed 32% of the herbaceous component. Also present was purple three Awn and Bottlebrush Squirreltail. Phlox was 1% of the composition for the forb component also present by not within the monitoring plot was Globemallow.

Although soils in the uplands are stable and exhibit no outward signs of erosion, vegetative cover appropriate for the site is essential for maintaining proper soil surface stability, reducing compaction and improving overall water infiltration. These are all indicators for the standard.

Utilization data shows the allotment have generally been grazed within the light to moderate range (21%-60% current year's growth) or less for the recent past years. Fourwing saltbush plants exhibit proper growth forms. based on professional judgment and observations Winterfat plants show good vigor and minimal stature due to recent drought that took place during the late 1990's to early 2003. Since 2004

precipitation has been about average or above average resulting in increased stature and recruitment of new plants.

RIPARIAN: The only riparian area on the allotment is Seaman Spring. It has been fully developed.

The Standard only references stream bank stability. There are no streambanks present at this small spring to evaluate. The small amount of water at the source creates a minimal saturation zone for a short distance upstream. Livestock use has generally occurred away from the spring.

Monitoring Data Review

Line Intercept - 2008			Range Site
Key Area	**Total Cover**	**Desired Cover**	
KMA 1	**6.02%**	10-20%	029XY042NV
KMA 2	**10.30%**	10-20%	029XY042NV
KMA 3	**18.89%**	15-25%	029XB017NV
Line Intercept measures the amount of vegetative cover intercepted in 100 feet.			

Conclusion:

Standard Not Achieved.

Cover data indicates inadequate cover at key area one with adequate cover at key areas two and three. All three sites show little to no evidence of rill or gully formations. The soils appear stable and in place. Specie composition at key areas one and two showed a lack herbaceous diversity and frequency. The probability of soil movement is low due to the ability of deep rooted species to hold the soil in place.

Standard 2. Ecosystem Components

Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- 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 acceleration 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).
    - Other covers (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 plan species and cover appropriate to the site characteristics.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the State water quality Standards.

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

Determination:

□ Meeting the Standard

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

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

Causal Factors

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

X **Livestock are not a significant contributing factor to not meeting the standard**

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

Guidelines Conformance:

□ In conformance with the Guidelines

X **not in conformance with the Guidelines**

Conclusion: *Standard Not Achieved*

Line Intercept Cover data collected at the key areas indicates the major plant communities have reduced composition of plant species such as Indian ricegrass, bottlebrush squirreltail, and ephedra (except at key area 3 which had 21% ephedra), and minor species listed in the range site description as other perennial grasses, and other shrubs.

Utilization data collected on the allotment during the evaluation period indicate use by livestock has been light to moderate along the winterfat bottoms with light to moderate use on the upper benches.

Data collected in the mid 1990's along with current professional observations and monitoring indicate that the sites have stayed stable over the last thirteen years in plant diversity. Overall, there has been little change in composition which reflects that plant communities are stable and thriving. The current grazing season of use is September 1st through May 15th. This type of use allows the allotment to rest every year during the growing season.

At key area one there are plant species that were present but not included within the study plot. These included Indian ricegrass and Bottle brush squirreltail. The percent composition of the plants is below the potential native community standard (PNC) but is within the ecological site description.

At key area two Indian ricegrass and Bottlebrush squirreltail were also present but not within the monitoring plot. As described above at key area one the percent composition of the herbaceous species within the plant communities is below what it could be but is within the ecological site description.

At key area three there is appropriate composition of plant diversity and vigor within the range site. The key species appear to have maintained since the last study completed in the mid 1990's.

lack of native grasses indicating a poor trend for desirable species and the beginning of a shift to less desirable species. Galleta, ricegrass, four-wing, and winterfat all decreased. Galleta, ricegrass, and winterfat decreased significantly.

There are no lotic systems within the South Coal Valley Allotment and one lentic system at Seamen Spring. The spring is a fully developed range improvement and therefore did not have PFC conducted.

Standard 3. Habitat and Biota:

As indicated by:

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

- Vegetation productivity; and
- Vegetation nutritional value.

Determination:

□ Meeting the Standard

X Not Meeting the Standard, but making significant progress towards

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

Causal Factors

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

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

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

Guidelines Conformance:

X In conformance with the Guidelines

□ Not in conformance with the Guidelines

Conclusion: *Standard Not Achieved*

The dominant present vegetation within the South Coal Valley allotment based on baseline range studies (ecological condition, line intercept cover) and professional observation (including photographs) all indicate a diverse habitat that is distributed in a mosaic across the landscape for the size and location of the allotment. A variety of plant communities is present that shows the vegetation distribution indicator to be appropriate for the size and location of the allotment. Vegetation distribution is also enhanced by the mid and high elevation rolling, broken topography of the land area. Measured cover using line intercept cover method at all three key areas indicated cover is adequate at two of the three key areas.

The composition at key areas using the line intercept cover method indicates shrubs composition at 63 % and with a desirable herbaceous composition at 37 % at key area one and 99% shrubs and 1% desirable grasses with no forbs present at key area two. The ecological site descriptions indicate 40 percent shrubs, 55 percent grasses and 5 percent forbs should be present. At key area three it had 67% shrubs with a desirable herbaceous component of 32% with 1% forbs present. The ecological site description calls for 45% grasses, 50% shrubs and 5% forbs. The lack of forbs at the key areas could be attributed to the time of the year cover was read which was January.

Vegetation communities in the valley are dominated by salt desert species. The main valley floor shrub species generally include winterfat, fourwing saltbush, and spiny hopsage. The herbaceous species include squirreltail, Indian ricegrass, and small galleta.

Dominant species on the benches above the salt desert bottoms include Wyoming sagebrush, black sagebrush, Ephedra with galleta, squirreltail and Indian ricegrass in the understory.

The invasive annual cheatgrass occurs in varying levels throughout the allotment but is most dominant along roads and disturbed areas by both livestock and wildlife.

There are no major noxious weed species mapped within the South Coal Valley Allotment. Outside of the allotment along State Highway 318 there is knapweed species that has the potential to be introduced within the allotment along roads. The allotment will continue to be monitored for noxious weed species.

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

Standard #1: Soils

Conclusion: Standard Not Achieved. The majority of the South Coal Valley Allotment is meeting or making progress towards achieving the standard. The areas of concern mentioned above that are not meeting the standard should continue to be monitored. The primary reason for the reduced herbaceous component has been the drought years that took place during the late 90's and early 2000. In working with the BLM the permittees has been running substantially reduced Livestock grazing of both sheep and cattle within the allotment over the last six years. The reduction in use is a result of prolonged drought within the region during the late 1990's and early 2000's. Use on the allotment has been 10% to 70% percent of permitted use.

The allotment is maintaining a diverse functioning ecosystem. The presence of annual grasses should be maintained at a minimum to reduce the threat of wildfire within the allotment.

Standard #2: Ecosystem Components

Conclusion: Standard Not Achieved. Line Intercept Cover data collected at the key areas indicates the major plant communities are composed of major plant species to meet ecological diversity standards. At Key Area one and two there are plant species that were present but not included within the study plot. These included Indian ricegrass and Bottlebrush squirreltail. However the frequency of desirable native grasses to shrubs is lacking in substantial quantity though present in composition. Due to the lack of frequency of cool season grasses such as Indian ricegrass and Bottlebrush squirreltail it is therefore not in conformance with the guidelines.

There is one lentic spring on the South Coal Valley Allotment. It is fully developed with a pipeline and therefore will not have Proper Functioning Condition (PFC) conducted.

Standard #3: Habitat and Biota

Conclusion: Standard not met. Existing grazing management and levels of grazing use on the South Coal Valley Allotment are not significant causal factors in failing to achieve the habitat standard. Utilization data shows the allotment has generally been grazed moderate or less for the recent past years and use on the allotment has been 10% to 70% percent of permitted use. The decline in frequency of major herbaceous

species such as Indian ricegrass and Bottlebrush squirreltail are more attributed to historic grazing practices of the previous century. The current management practices such as rest rotation grazing, water hauling and winter use only are aiding the range to recover and make significant progress towards achieving standards and guidelines.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

Current livestock grazing management practices do not conform with Guidelines 3.7

Where grazing practices alone are not likely to achieve habitat objectives. Land Management practices may be designed and implemented as appropriate. Construction of the allotment boundary fence will immensely aid in the South Coal Valley and the Murphy Gap Allotment in continuing or make significant progress toward achieving standards and guidelines.

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

Discussion:

Several management practices are recommended to conform to the Guidelines in order to continue meeting or make significant progress towards meeting the Standards for Rangeland Health. In general, livestock need to continue to be managed in a way to encourage even distribution throughout the allotment as well as continue with a rest rotation system that is currently in place. Grazing within the allotment occurs from 9/1 to 5/15 predominantly during the winter months when plants are dormant. Grazing is not an issue that would prevent attainment of the stated objectives for soil stability. Grazing should continue to be used during the winter months in order to reduce the buildup of fine fuels and prevent a frequent fire cycle. Monitoring will continue to ensure proper species composition and diversity

Recommendations:

1. Maintain season of use as per the 1996 Final Multiple Use Decision (FMUD) for the Seaman Herd Management Area. Up to 14 days extension (in accordance with 4130.3-2) for grazing may be permitted on a case by case basis and requires the approval of the authorized officer prior to use. Active use AUMs may not be exceeded.

2. Salt and/or mineral supplements for livestock shall be located no closer than ¼ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock. Supplements are to be placed ½ mile from existing waters.

3. Maximum allowable use levels would be established as follows:

- Perennial grasses: 30% prior to 5/1 not to exceed 50% of 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) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- Perennial shrubs and half-shrubs: 45% use on current year's growth.

This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

4. Wildlife escape ramps will be installed and maintained by the permittee at each trough used on the allotment (permanent or temporary).

5. Construction of the Murphy Gap South Coal Valley Allotment boundary fence would aid in distribution of the livestock throughout the allotment while preventing drift to and from the Murphy Gap Allotment. The EA is in progress within the Ely district.

Evaluation and Determination of Rangeland Health Standards for the Black Bluff Allotment.

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:

- Stream bank stability.

Determination:

□ Meeting the Standard

X **Not Meeting the Standard, but making significant progress towards standard**

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

Causal Factors

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

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

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

Guidelines Conformance:

□ In conformance with the Guidelines

X Not in conformance with the Guidelines

Conclusion: *Standard Not Achieved*

UPLANDS:
Vegetative cover collected at Study Site 1 is adequate when compared to the NRCS site description. The ecological site for this key area is a Loamy Upland 5-8" P.Z – 029XY016NV- Spiny Hopsage/Fourwing/Ephedra-Indian ricegrass site. The approximate potential ground cover (basal and crown) according to the range site is 20-30%. This site occurs on piedmont sloes, alluvial fans and alluvial plains of all exposures. Elevations range from 4200 to 6000 feet.

The native cover at Study Site 1 measured at 23.57%. There were no perennial grasses within the understory to account for any of the cover while three perennial native shrubs accounted for 100% cover. Spiny Menodora represented the majority of the vegetative cover. The loss of perennial grasses at this study is due continual livestock grazing during the critical growing.

Vegetative cover collected at Study Site 2 is deficient compared to the Rangeland Ecological Site Description (NRCS). The ecological site for this key area is a Silty 5-8" P.Z. – 029XY020NV - Winterfat/Ricegrass – Bottlebrush Squirreltail site. The approximate potential ground cover (basal and crown) according to the range site is 10-20%. This site occurs on alluvial plains, fans skirts, and inset fans on all exposures. Elevations range from 4000 to 6000 feet.

At Study Site 2, there is only 9% vegetative cover. Shrubs represent 100% of the cover and grasses represent 0% with no forbs contributing to cover measurements. Winterfat was the dominant brush within the measurements. The existing Winterfat and Fourwing saltbush plants showed signs of pedestalling due to wind erosion. The loss of perennial grasses at this study site is also due to continual livestock grazing during the critical growing season.

The site description discusses the loss of native grasses it states, "*Where management results in abusive grazing use by cattle and/or feral horses, bottlebrush squirreltail, winterfat and Indian ricegrass decrease. With further site degradation, halogeton, Russian thistle and annual mustards invade the interspace areas between shrubs. The soils of this site are highly erodable and with site degradation, gullies may form which interrupt and concentrate overland flow patterns.*

Although soils in the uplands at Study Site 1 are stable and exhibit no outward signs of erosion, vegetative cover appropriate for the site is essential for maintaining proper soil surface stability, reducing compaction and improving overall water infiltration therefore based on lack of desirable species composition the standard is not being met. Because the

soils are stable and exhibit no signs of outward erosion progress is being made toward achieving the standard. The soils at Study Site 2 exhibit signs of erosion mainly due to wind and slight water rilling. There is an influx of non-native species within the area such as Russian thistle and Halogeton as well.

The data at Study Site 1 shows that cover is adequate but that the site lacks the desired herbaceous component. Study Site 2 line intercept cover data indicates that it is deficient in overall vegetative cover, and specie composition.

Standard #1: Soils (Standard Not Achieved)
The primary causal factor is the season of use. The permit allows use to begin in first of September and doesn't end until May 15. Late May is too late on the allotment as many plants are in the critical growing period at that time. Utilization of cool season plants, especially Indian ricegrass and winterfat, during the critical growing season has resulted in a significant decrease in these species in the primary grazing area.

RIPARIAN: There are no riparian areas within the Black Bluff Allotment; therefore it will not be analyzed any further within this document.

Standard 2. Ecosystem Components

Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- 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 acceleration 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).
- Other covers (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 plan species and cover appropriate to the site characteristics.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the State water quality Standards.

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

Determination:

□ Achieving the Standard

X Not Achieving the Standard, but making significant progress towards

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

Causal Factors

X Livestock are a significant contributing factor to not achieving the standard.

□ Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:

X Not in conformance with the Guidelines

Conclusion: *Standard Not Achieved*

UPLANDS**:** Line Intercept Cover data collected at the key areas indicates the major plant communities are lacking major plant species such as Indian ricegrass, bottlebrush squirreltail, and ephedra (except at Study Site 1 which had 8.54% ephedra), and minor species listed in the range site description as other perennial grasses, and other shrubs. The key species appear to have decreased in the areas that are affected by normal grazing patterns.

Utilization data collected on the allotment during the evaluation period indicate use by livestock has been heavy along the winterfat bottoms with moderate to light use in the uplands.

Ecological data collected in the mid 1990's along with current professional observations today indicate several important key species have declined at Study Site 2 in the years between 1995 and 2008. Overall, composition has changed at Study Site 2 based on the lack of native grasses indicating a poor trend for desirable species and the beginning of a shift to less desirable species. Galleta, ricegrass, four-wing, and winterfat all decreased. Galleta, ricegrass, and winterfat decreased significantly.

There were two fires within or partially within the Black Bluff Allotment recently. They were the Rocky fire and White River fire. Both fires were reseeded and are being monitored for success. According to the BLM precipitation data collected at the neighboring Mustang Allotment, annual rainfall in 2002 measured only 2.67". Whereas rainfall varied from 6-11 inches from 2000 to 2006. Cheatgrass can be found in the seed rows indicating a poor response by seeded species. Use by rabbits of new vegetation in the reseeded area has been high.

RIPARIAN: The Standard is not assessed for the Black Bluff Allotment.

Standard #2: Ecosystem Components

Conclusion: (Standard Not Achieved). Livestock grazing is one significant contributing factor to not achieving the Standard. Vegetative cover is inadequate for the sites where livestock grazing has occurred during the evaluation period. The magnification of "increaser species" and the decline of "decreaser species" are attributed to continued spring grazing by livestock. Although utilization limits were not exceeded, the almost yearly continued spring use has had an impact on the community, as reflected by the cover and frequency data.

Standard 3. Habitat and Biota:

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

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

Causal Factors:

X Livestock are a significant contributing factor to not achieving the standard.

□ Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:

X Not in conformance with the Guidelines

Conclusion: *Standard Not Achieved*

Study Site 1 is located on a Loamy Upland 5-8" P.Z – 029XY016NV- Spiny Hopsage/Fourwing/Ephedra-Indian ricegrass site. The approximate potential ground cover (basal and crown) according to the range site is 20-30%. This site occurs on piedmont sloes, alluvial fans and alluvial plains of all exposures. Elevations range from 4200 to 6000 feet. The native cover at Study Site 1 measured at 23.57% with three shrub species accounting for 100% of the composition. The complete lack of an herbaceous understory is due to continued spring use by livestock. Dominant species on the slopes adjacent to the Seaman Range include Wyoming sagebrush, black sagebrush with galleta, squirreltail and Indian ricegrass in the understory. The Seaman Range is extremely rocky desert range with a fair amount of vegetation and is practically inaccessible to livestock.

Vegetation communities in the valley are dominated by salt desert species. The main valley floor shrub species generally include winterfat, fourwing saltbush, and spiny hopsage. The herbaceous species include squirreltail, Indian ricegrass, and small galleta. Study Site 2 is located within is a Silty 5-8" P.Z. – 029XY020NV - Winterfat/Ricegrass – Bottlebrush Squirreltail site. The approximate potential ground cover (basal and crown) according to the range site is 10-20%. This site occurs on alluvial plains, fans skirts, and inset fans on all exposures. Elevations range from 4000 to 6000 feet. At Study Site 2, there is only 9% vegetative cover. Shrubs represent 100% of the cover and grasses represent 0% with no forbs contributing to cover measurements. The lack of a perennial herbaceous understory is due to livestock grazing during the critical growing season. Utilization data shows the allotment have generally been grazed within the moderate to heavy range (41-80% current year's growth) or less for the recent past years. But due to continuous grazing through the critical growing season for cool season plants, frequency, vigor, and community structure have been reduced which has degraded habitat in general terms, especially within the perimeter serviced by three main water sources.

Fourwing saltbush plants exhibit poor growth forms based on removal of primary branches. Winterfat plants show poor vigor and minimal stature. Shrubs are decreasing in general at study sites 1 and 2. This translates to reduced habitat quality due to less escape cover for small rodents, less perching and nesting opportunities for birds, and reduced forage opportunities for many wildlife species. Noxious and non-noxious weeds impact wildlife species through increased competition with desirable native plants and degradation of habitats. These plants offer little if any, nutritional value to wildlife and may even be toxic.

The invasive annual cheatgrass occurs in varying levels throughout the allotment but is most dominant wherever wildfire has occurred. Noxious weed species including Russian knapweed, have been mapped along State Highway 318 that borders the eastern boundary of the allotment. The specie has the potential to degrade wildlife habitat for a variety of species. Noxious weeds are typically unpalatable or protected by chemicals or spines which prevent grazing or use from occurring. They out compete native species and can form monocultures where left untreated.

Wildlife habitat quality in the desert is based partly on proper vegetation community, appropriate structure (height/width/breadth) and age class. Corridors and edges based on appropriate disturbances provide microhabitats. Overall productivity of individual native plant species contributes to the basic habitat requirements of forage and cover for numerous wildlife species in the salt desert. The allotment should ultimately reflect the potential based on the Ecological Site Descriptions which is a Loamy Upland 5-8" P.Z. for Study Site 1 and a Silty 5-8" P.Z. for Study Site 2.

Standard #3: Habitat and Biota

Conclusion: (Standard Not Achieved). Livestock grazing is one significant contributing factor to not achieving the Standard. General observations and data analysis indicate habitat is in a degraded state due to diminishing vegetative cover and poor community structure in the primary grazing area. Important wildlife cover and forage species such as ricegrass, winterfat, and fourwing saltbush are decreasing in number and vigor. Plant vigor and stature of desirable native shrub species have been affected in part by livestock grazing, particularly in the critical growing season. Fourwing, spiny hopsage and winterfat plants show poor growth forms and reduced woody biomass.

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

The primary causal factor is the season of use. The permit allows livestock use to begin at the first of September and doesn't end until May 15. Late May is too late on the allotment as many plants are in the critical growing period at that time. Utilization of cool season plants, especially Indian ricegrass and winterfat, during the critical growing season has resulted in a significant decrease in these species in the primary grazing area. Due to continuous grazing through the critical growing season for cool season plants, frequency, vigor, and community structure have been reduced which has degraded habitat in general terms, especially within the perimeter serviced by three main water sources.

The reduction of key perennial species can have impacts on the overall protection of soils. Additionally, the vegetative cover which should be 20-30% at Study Site 1 and 10 to 20% at Study Site 2 is currently 23.5% and 9% respectively. The reduced cover can be due to a reduction and subsequent replacement of key perennial plants with undesirable species such as Halogeton or Russian thistle. The reduction of important grass, forb, and shrub species, some of which are highly favored by livestock, results in the reduced resilience of the community to resist (or recover from) disturbance. Large wildfires are becoming more commonplace in the salt desert due to the momentous increase of cheatgrass. Cheatgrass returns with robust vigor following fire thereby adding to the threat of habitat loss.

It should be noted that overall soils appear to be stable on the allotment as no outward signs of soil loss or soil movement was observed other than some pedestalling along the Winterfat bottoms that was noted during monitoring. The gentle slopes of the allotment help reduce or even prevent soil loss due to overland flow.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

Current livestock management practices do not conform to Guideline 1.1 for Soils.

Upland management practices should maintain or promote adequate vegetative ground cover to achieve the standard. Grazing through the end of May is not in conformance with the guideline where it results in reduced cover, vigor, and reproduction of key perennial grasses or shrubs.

Current livestock grazing management practices do not conform with Guidelines 2.3, and 2.6.

Management practices should maintain or promote the physical and biological conditions necessary for achieving surface characteristics and desired natural plant community. At the key areas, the plant community has changed based on continual grazing throughout the critical growing season with no rest resulting in the significant decrease in key perennial species including galleta, ricegrass, and winterfat.

Current livestock grazing practices do not conform to Guideline 3.1.

Mosaics of plant and animal communities that foster diverse and productive ecosystems should be maintained or achieved. The reduction of key perennial native grass and shrub species which has been documented on the allotment is an impact from grazing through the late spring months. Additionally, livestock distribution and management results in livestock grazing the same areas yearly. This management impacts vegetation and degrades habitat.

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

Discussion:

Several management practices are recommended to conform to the Guidelines in order to make progress toward meeting the Standards for Rangeland Health. They are a change in the season of use and dividing the allotment into a two pasture system as presented under Recommendations below. This would improve those areas cited in this document where plants appear to suffer repeated grazing use. No reduction in the permitted active AUMs is proposed, nor is deemed necessary at this time. However, it should be stated that the AUMs for the entire allotment are being utilized on less than 2/3 of the allotment. The area west of the Seaman Range should be evaluated for opportunities for fencing and water development to fully utilize the allotment.

Recommendations:

1.The allotment would be split into two pastures, the lower east pasture and the upper west pasture. The seaman range would act as a natural boundary for the pastures.

2. The grazing season of use would be changed from 3/1 to 5/15 and 9/1 to 2/28 to 9/01 to 2/28 on the lower east pasture to allow for reduced spring use of cool season perennial grasses and shrubs to ensure full development of annual growth and seed development and to encourage regeneration and improved current vegetative condition. Also starting with the 2008 grazing season the lower east pasture will be closed to livestock grazing for a period of not less than three full growing seasons. The season of use for the upper west pasture will remain 3/1 to 5/15 and 9/1 to 2/28. Up to 14 days extension (in accordance with 4130.3-2) may be permitted on a case by case basis and requires the approval of the authorized officer prior to use. Active use AUMs may not be exceeded.

3. Salt and/or mineral supplements for livestock shall be located no closer than ¼ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock. Supplements are to be placed ½ mile from existing waters.

4. Maximum allowable use levels would be established as follows:

- Perennial grasses: 30% current year's growth by 5/31 not to exceed 50% for yearlong. .

This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- Perennial shrubs and half-shrubs: 45% use on current year's growth.

This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

5. Wildlife escape ramps will be installed and maintained by the permittee at each trough used on the allotment (permanent or temporary).

Evaluation and Determination of Rangeland Health Standards for the White River Allotment.

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:

- Stream bank stability.

Determination:

□ Meeting the Standard

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

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

Causal Factors

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

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

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

Guidelines Conformance:

□ In conformance with the Guidelines

X Not in conformance with the Guidelines

Conclusion: *Standard Not Achieved*

UPLANDS: Key Management Area (KMA) 1 is located in a Winterfat bottom that is described as Winterfat/Ricegrass – Bottlebrush Squirreltail site. The Ecological Site Description (NRCS) for the site is a Silty 5-8" P.Z. – 029XY020NV. The approximate potential ground cover (basal and crown) according to the range site is 10-20%.
The native cover at KMA 1 measured at 2.89%. There were no perennial grasses within the understory to account for any of the cover while three perennial native shrubs accounted for 100% cover. Winterfat represented the majority of the vegetative cover.

KMA 2 is located at an upland site that is a Spiny Hopsage/Fourwing/Ephedra-Indian ricegrass site. The ecological site for this key area is a Loamy Upland 5-8" P.Z – 029XY016NV. The approximate potential ground cover (basal and crown) according to the range site is 20-30%.
At KMA 2, there is 13.6% vegetative cover. Shrubs represent 97% of the cover and grasses represent 3% with no forbs contributing to cover measurements. Ephedra was the dominant brush within the measurements.
The data at KMA 1 shows that cover is inadequate and that the site lacks the desired herbaceous component. The soils at KMA 1 exhibit signs of erosion mainly due to wind and slight water rilling. There is an influx of non-native species within the area such as Russian thistle and Halogeton.

The site description for KMA 1 discusses the loss of native grasses it states, "*Where management results in abusive grazing use by cattle and/or feral horses, bottlebrush squirreltail, winterfat and Indian ricegrass decrease. With further site degradation, halogeton, Russian thistle and annual mustards invade the interspace areas between shrubs.*
The soils of this site are highly erodable and with site degradation, gullies may form which interrupt and concentrate overland flow patterns.

The line intercept cover data indicates KMA 2 is deficient in overall vegetative cover, Although soils in the uplands at KMA 2 are stable and exhibit no outward signs of erosion, vegetative cover appropriate for the site is essential for maintaining proper soil surface stability, reducing compaction and improving overall water infiltration. Litter and other natural debris were also present. There were crust formations present as well. These are all indicators for the standard.

RIPARIAN: There are no riparian areas within the White River Allotment; therefore it will not be analyzed any further within this document.

Standard 2. Ecosystem Components

Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- 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 acceleration 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).

- Other covers (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 plan species and cover appropriate to the site characteristics.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the State water quality Standards.

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

Determination:

□ Achieving the Standard

□ Not Achieving the Standard, but making significant progress towards

X **Not Achieving the Standard, and <u>not</u> making significant progress toward standard**

Causal Factors

X Livestock are a significant contributing factor to not achieving the standard.

□ Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:

X Not in conformance with the Guidelines

<u>Conclusion: *Standard Not Achieved*</u>

UPLANDS**:** Line Intercept Cover data collected at the key areas indicates the major plant communities are lacking major plant species such as Indian ricegrass (*Achnatherum hymenoides*), bottlebrush squirreltail (*Sitanion hystrix*), and ephedra (*Ephedra nevadensis*) (except at KMA 2 which had 7.7% ephedra), and minor species listed in the range site description as other perennial grasses, and other shrubs. The key species appear to have decreased away from the areas affected by normal grazing patterns.

Utilization data collected on the allotment during the evaluation period indicate use by livestock has been heavy along the winterfat bottoms with moderate to light use in the uplands.

Ecological data collected in 1995 and 1997 directly across state highway 318 but within the same ecological site description indicate several important key species have declined at KMA 1 in the years between 1995 and 2008. Overall, based on previous data and professional observations trend is downward at KMA 1 based on the lack of native grasses indicating a poor trend for desirable species and the beginning of a shift to less desirable species. Galleta, ricegrass, four-wing, and winterfat all decreased. Galleta, ricegrass, and winterfat decreased significantly.

There have been no fires within the White River Allotment during recent history. According to the BLM precipitation data collected at the neighboring Mustang Allotment, annual rainfall in 2002 measured only 2.67". Whereas rainfall varied from 6-11 inches from 2000 to 2006.

RIPARIAN: The Standard is not assessed for the White River Allotment.

Standard 3. Habitat and Biota:

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

X Not Achieving the Standard, <u>not</u> making significant progress toward standard

Causal Factors:

X Livestock are a significant contributing factor to not achieving the standard.

□ Livestock are not a significant contributing factor to not achieving the standard

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

Guidelines Conformance:

X Not in conformance with the Guidelines

<u>Conclusion: *Standard Not Achieved*</u>

Vegetation communities in the valley are dominated by salt desert species. The main valley floor shrub species generally include winterfat, fourwing saltbush, and spiny hopsage. The herbaceous species include squirreltail, Indian ricegrass, and small galleta.

Dominant species on the slopes adjacent to the North Pahroc Range include Wyoming sagebrush, black sagebrush with galleta, squirreltail and Indian ricegrass in the understory. The North Pahroc Range is extremely rocky desert range with a fair amount of vegetation and is practically inaccessible to livestock.

Invasive annuals such as cheat grass occur within the allotment but is not a significant factor within the innerspaces and disturbed areas. Noxious weed species including Russian knapweed, have been mapped along State Highway 318 that borders the western boundary of the allotment. The specie has the potential to degrade wildlife habitat for a

variety of species. Noxious weeds are typically unpalatable or protected by chemicals or spines which prevent grazing use from occurring. They out compete native species and can form monocultures where left untreated.

Utilization data shows the allotment have generally been grazed within the moderate to heavy range (41-80% current year's growth) or less for the recent past years. But due to continuous grazing through the critical growing season for cool season plants, frequency, vigor, and community structure have been reduced which has degraded habitat in general terms, especially within the perimeter serviced by the one main water source along the winterfat bottom.

Fourwing saltbush plants exhibit poor growth forms based on removal of primary branches. Winterfat plants show poor vigor and minimal stature. Shrubs are decreasing in general at key areas 1 and 2. This translates to reduced habitat quality due to less escape cover for small rodents, less perching and nesting opportunities for birds, and reduced forage opportunities for many wildlife species. Noxious and non-noxious weeds impact wildlife species through increased competition with desirable native plants and degradation of habitats. These plants offer little if any, nutritional value to wildlife and may even be toxic.

Wildlife habitat quality in the desert is based partly on proper vegetation community, appropriate structure (height/width/breadth) and age class. Corridors and edges based on appropriate disturbances provide microhabitats. Overall productivity of individual native plant species contributes to the basic habitat requirements of forage and cover for numerous wildlife species in the salt desert. The allotment should ultimately reflect the potential based on the Ecological Site Descriptions.

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

Standard #1: Soils

Conclusion: (*Standard Not Achieved).* Livestock grazing is one significant contributing factor to not achieving the Standard. The primary reason cited is inadequate soil protection through inappropriate vegetation community. The primary causal factor is the season of use and recent droughty conditions. The permit allows use to begin in first of September and doesn't end until May 15. Late May is too late on the allotment as many plants are in the critical growing period at that time. Utilization of cool season plants, especially Indian ricegrass and winterfat, during the critical growing season has resulted in a significant decrease in these species in the primary grazing area.

The reduction of key perennial species can have impacts on the overall protection of soils. Additionally, the vegetative cover which should be 20-30% at KMA 2 and 10 to 20% at KMA 1 is currently 13.62% and 2.9% respectively. The reduced cover can be due to a reduction and subsequent replacement of key perennial plants with undesirable species such as Halogeton or Russian thistle. The reduction of important grass, forb, and

shrub species, some of which are highly favored by livestock, results in the reduced resilience of the community to resist (or recover from) disturbance.

It should be noted that overall soils appear to be stable in the allotment as no outward signs of soil loss or soil movement was observed other than some pedestalling along the Winterfat bottoms that was noted during monitoring. The gentle slopes of the allotment help reduce or even prevent soil loss due to overland flow.

Standard #2: Ecosystem Components

Conclusion: (*Standard Not Achieved).* Livestock grazing is one significant contributing factor to not achieving the Standard. Vegetative cover is inadequate for the sites where livestock grazing has occurred during the evaluation period. The magnification of "increaser species" and the decline of "decreaser species" are attributed to continued spring grazing by livestock. Although utilization limits were not exceeded, the almost yearly continued spring use has had an impact on the community, as reflected by the cover and frequency data.

Standard #3: Habitat and Biota

Conclusion: (*Standard Not Achieved).* Livestock grazing is one significant contributing factor to not achieving the Standard. General observations and data analysis indicate habitat is in a degraded state due to diminishing vegetative cover and poor community structure in the primary grazing area. Important wildlife cover and forage species such as ricegrass, winterfat, and fourwing saltbush are decreasing in number and vigor. Plant vigor and stature of desirable native shrub species have been affected in part by livestock grazing, particularly in the critical growing season. Fourwing, spiny hopsage and winterfat plants show poor growth forms and reduced woody biomass.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

Current livestock management practices do not conform to Guideline 1.1 for Soils.

Upland management practices should maintain or promote adequate vegetative ground cover to achieve the standard. Grazing through late May is not in conformance with the guideline where it results in reduced cover, vigor, and reproduction of key perennial grasses or shrubs.

Current livestock grazing management practices do not conform with Guidelines 2.3, and 2.6.

Management practices should maintain or promote the physical and biological conditions necessary for achieving surface characteristics and desired natural plant community. At the key areas, the plant community has changed based on continual early season grazing resulting in the significant decrease in key perennial species including galleta, ricegrass, and winterfat.

Current livestock grazing practices do not conform to Guideline 3.1.

Mosaics of plant and animal communities that foster diverse and productive ecosystems should be maintained or achieved. The reduction of key perennial native grass and shrub species which has been documented on the allotment is an impact from grazing through the late spring months. Additionally, livestock distribution and management results in livestock grazing the same areas yearly. This management impacts vegetation and degrades habitat.

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

Discussion:

Several management practices are recommended to conform to the Guidelines in order to make progress toward meeting the Standards for Rangeland Health. They are a change in the season of use and dividing the allotment into a two pasture system as presented under Recommendations below. This would improve those areas cited in this document where plants appear to suffer repeated grazing use. No reduction in the permitted active AUMs is proposed, nor is deemed necessary at this time.

Recommendations:

1.The allotment would be split into two pastures, the lower west pasture and the upper east pasture. Water hauling would be used to keep livestock on the upper pastures and out of the Winterfat bottoms.

2. The grazing season of use would be changed from 3/1 - 5/15 and 9/1 - 2/28 to 9/1 - 2/28 on the lower east pasture to allow for no livestock spring use of cool season perennial grasses and shrubs to ensure full development of annual growth and seed development and to encourage regeneration and improved current vegetative condition. Also starting with the 2008 grazing season the lower west pasture will be closed to livestock grazing for a period of not less than three full growing seasons. The season of use for the upper east pasture will remain 3/1 to 5/15 and 9/1 to 2/28. Up to 14 days extension (in accordance with 4130.3-2) may be permitted on a case by case basis and requires the approval of the authorized officer prior to use. Active use AUMs may not be exceeded.

3. Salt and/or mineral supplements for livestock shall be located no closer than ¼ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock. Supplements are to be placed ½ mile from existing waters.

4. Maximum allowable use levels would be established as follows:

- Perennial grasses: 30% current year's growth by 5/31 not to exceed 50% for yearlong. .

This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- Perennial shrubs and half-shrubs: 45% use on current year's growth.

This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

5. Wildlife escape ramps will be installed and maintained by the permittee at each trough used on the allotment (permanent or temporary).

Evaluation and Determination of Rangeland Health Standards for the Black Horse Allotment.

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:

- Stream bank stability.

Determination:

X Meeting the Standard

□ Not Meeting the Standard, but making significant progress towards

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

Causal Factors

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

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

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

Guidelines Conformance:

X In conformance with the Guidelines

□ Not in conformance with the Guidelines

Conclusion: Standard Achieved

UPLANDS: The native cover at KMA 1 measured at 15%. There are perennial grasses within the system that is under the shrub canopies. This is predominantly due to shading and hydraulic lift by the sagebrush plants which creates microhabitats that favor the grass species. Two perennial native shrubs accounted for 98% of the cover. Sagebrush represented the majority of the vegetative cover.
Vegetative cover collected at Key Management Area (KMA) 1 is deficient compared to the Rangeland Ecological Site Description (NRCS). The ecological site for this key area is an Upland Wash 8-12" P.Z. – 029XY009NV - Sagebrush – Indian ricegrass/Bottlebrush Squirreltail site. The approximate potential ground cover (basal and crown) according to the range site is 20-35%.

At KMA 2, there is 15.3% vegetative cover. Shrubs represent 69% of the cover and grasses represent 30% with 1% forbs contributing to cover measurements. Ephedra was the dominant brush within the measurements. Also present but not located within the transect was Cliffrose, Sagebrush as well as scatted Juniper trees. The ecological site for this area is a Loamy 8-10" P.Z – 029XY006NV- Sagebrush/ Indian ricegrass, galleta community. The approximate potential ground cover (basal and crown) according to the range site is 15-25%. The KMA is situated in a area affected by a fire that took place in 1984 which burned 16,500 acres. This has resulted in a state in transition that reflects more of a balance in the herbaceous component with the browse species.

At KMA 3 there is 14.8% vegetative cover. Shrubs represented 88% of the cover and grasses represented 10% with forbs accounting for 2%. Black sagebrush was the dominant brush within the measurements. This area was affected by the same fire as described above. The ecological site for this area is Shallow Calcarous Hill 8-140" P.Z- 029XY015NV- Juniper, Cliffrose, Black sagebrush/ Indian ricegrass, galleta community. The approximate ground cover is 3-15%.

The line intercept cover data indicates KMA 1 is deficient in overall vegetative cover. The data at KMA 1 shows that cover is inadequate and that the site lacks the desired herbaceous component. The soils at this site are stable and exhibit no outward signs of erosion litter and other natural debris are in place to protect against other forms of erosion such as wind and splash. The lack of the desirable herbaceous component is more related to drought and wildlife use rather than livestock. This site has cryptogrammic crust formations present.

The cover data at KMA 2 is within the ecological site description (15-25%) and the herbaceous component is proper for the site. The soils are stable with proper litter for soil protection and water infiltration.

The line intercept cover data at KMA 3 is 14.8% cover, the ecological site description calls for 3-15% cover. The plant community at this site is healthy and diverse as called for within the site description. Soils are stable and healthy with cryptogrammic crust formations present.

RIPARIAN: There is one natural spring on the allotment that is a fully developed range improvement and therefore will not have PFC conducted on it.

Monitoring Data Review

Line Intercept - 2008			Range Site
Key Area	**Total Cover**	**Desired Cover**	
KMA 1	**14.95%**	20-35%	029XY009NV
KMA 2	**15.33%**	15-25%	029XY006NV
KMA 3	**14.82%**	3-15%	029XY015NV
Line Intercept measures the amount of vegetative cover intercepted in 100 feet.			

Conclusion:

Standard Achieved.

Cover data indicates adequate to above adequate cover for the sites. The sites show little to no evidence of rill or gully formations. The soils appear stable and in place. The probability of soil movement is low due to the ability of deep rooted species along with the presence of cryptograms to hold the soil in place. Grazing within the allotment occurs from 9/1 to 5/15 predominantly during the winter months when plants are dormant. Utilization levels on the allotment should be maintained at current levels to ensure

continued adequate litter for soil protection and stability. Grazing is not an issue that would prevent attainment of the stated objectives for soil stability.

Standard 2. Ecosystem Components

Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- 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 acceleration 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).
    - Other covers (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 plan species and cover appropriate to the site characteristics.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the State water quality Standards.

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

Determination:

X Meeting the Standard

□ Not Meeting the Standard, but making significant progress towards

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

Causal Factors

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

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

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

Guidelines Conformance:

X In conformance with the Guidelines

□ not in conformance with the Guidelines

Conclusion: *Standard Achieved*

UPLANDS**:** Line Intercept Cover data collected at the key areas indicates the major plant communities are composed of major plant species to meet ecological diversity standards. At KMA 2 and KMA 3 there are plant species that were present but not included within the study plot. These included Fourwing saltbush, Cliffrose, Juniper and Flax. The frequency of the plants is below the potential native community standard (PNC) but is within the range site description. The Seaman fire that occurred in 1984 aided immensely in moving the allotment towards achieving standard by moving it out of a woody dominated site. The composition of desirable native grasses to shrub is well within standard and therefore is in conformance with guidelines.

At KMA 1 it was the same as mentioned above with the exception of a reduced herbaceous component but with increased desirable shrubs. Vegetative cover is appropriate and vigorous.

There are no lotic systems within the Black Horse Allotment and one lentic system, an unnamed spring. The spring is a fully developed range improvement and therefore will not have PFC conducted on it.

Standard 3. Habitat and Biota:

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:

X Meeting the Standard

□ Not Meeting the Standard, but making significant progress towards

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

Causal Factors

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

Guidelines Conformance:

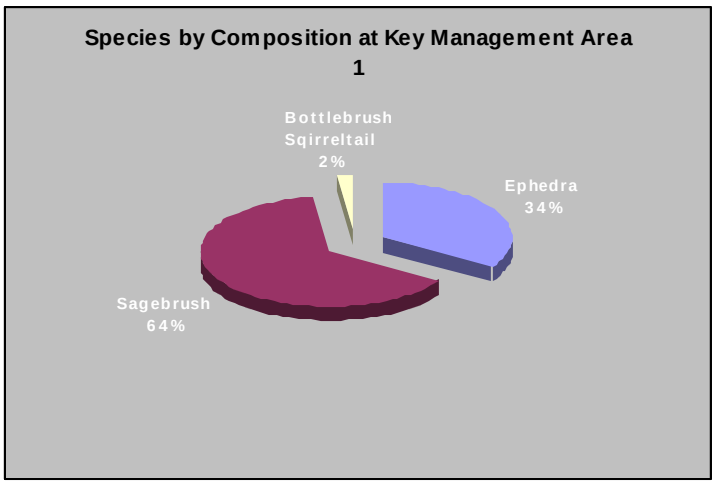
X In conformance with the Guidelines

☐ Not in conformance with the Guidelines

Findings: Current resource conditions related to the habitat standard.

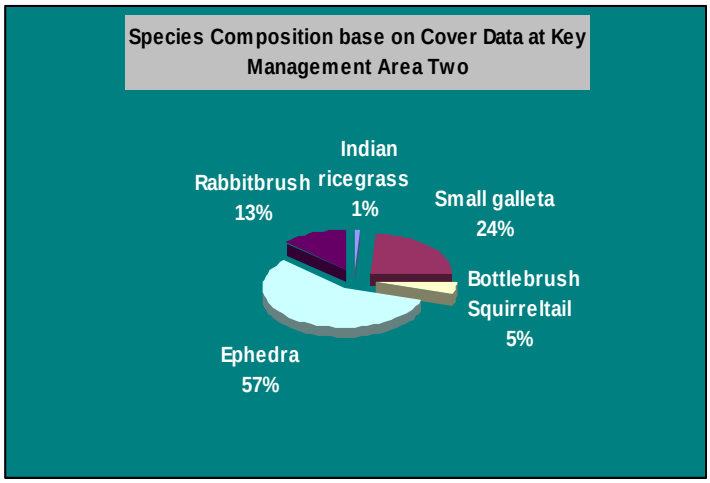
Vegetation communities in the Black Horse Allotment are dominated by Sagerbrush obligate species. The main shrub species generally include Black sagebrush, fourwing saltbush, Cliffrose, Juniper and spiny hopsage. The herbaceous species include squirreltail, Indian ricegrass, and small galleta. Forbs are Globemallow, Phlox, Flax and Penstemon species.

Dominant species on the slopes adjacent to the White River and Golden Gate Range include Wyoming sagebrush, black sagebrush with galleta, squirreltail and Indian ricegrass in the understory. The Golden Gate Range is extremely rocky desert range with a minimum amount of vegetation and practically inaccessible to livestock.

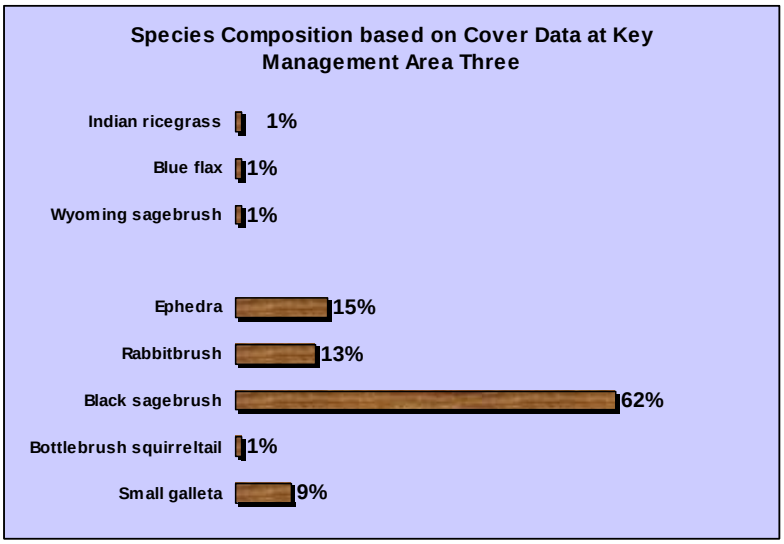


KMA 1 is 98% shrubs with 2% herbaceous component with a small component of forbs. The site description for the site calls for 75% shrubs, 25% grasses and Trace of forbs. KMA 1 was unaffected by the Seamen Fire that occurred in 1984.

Key Management Area 2 is 69% shrubs which include Ephedra, Rabbitbrush, Cliffrose and Fourwing Saltbush, the herbaceous component is about 30% of which small galleta is the main component. Forbs were 1% of the component within the study plot. Indian ricegrass and Sand dropseed were present but outside of the



monitored area. Forbs were also present which included Phlox and flax species. The site description calls for 45% shrubs, 50% grasses and 5% forbs.
At KMA 3 the herbaceous component was about 10% of the overall component with the shrubs accounting for 88% and forbs about 2%. Forbs present were Blue flax and phlox as could be identified. The site description calls for 20% grasses and 75% shrubs with 5% forbs.



The invasive annual cheatgrass occurs in varying levels throughout the allotment but is most prominent along roads and disturbed areas by both livestock and wildlife.

There are no major noxious weed species mapped within the Black Horse Allotment. Outside of the allotment along State Highway 318 there is knapweed species that has the potential to be introduced within the allotment along roads. The allotment will continue to be monitored for noxious weed species.

Utilization data shows the allotment has generally been grazed within the light to moderate range (21%-60% current year's growth) or less for the recent past years. Fourwing saltbush plants exhibit proper growth forms based on recent and past compliance inspections. Herbaceous species show good vigor and proper stature due to the Seaman Fire that took place in 1984 that kept the state in transition of the allotment from moving into a woody dominated site as is the potential as described within the ecological site descriptions. Since 2004 precipitation has been about average or above average resulting in increased stature and recruitment of new plants.

Conclusion

Standard Achieved

In working with the BLM the permittees has been running substantially reduced Livestock within the allotment over the last six years. The reduction in use is a result of prolonged drought within the region during the late 1990's and early 2000's. Use on the allotment has been 10% to 70% percent of permitted use.
The allotment is maintaining a diverse functioning ecosystem. The presence of annual grasses should be maintained at a minimum to reduce the threat of wildfire within the allotment.

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

Standard #1: Soils
Conclusion: Standard met (achieved). The majority of the allotment is meeting or making progress towards achieving the standard. The areas of concern mentioned above that are not meeting the standard should continue to be monitored. The primary reason for the reduced herbaceous component has been the drought years that took place during the late 90's and early 2000. The reduced herbaceous component at KMA 1 is normal for the site and is not a factor related to livestock grazing. Grazing should continue to be used during the winter months in order to reduce the buildup of fine fuels and prevent a frequent fire cycle. Monitoring will continue to ensure proper species composition and diversity.

Standard #2: Ecosystem Components Standard met (achieved). Line Intercept Cover data collected at the key areas indicates the major plant communities are composed of major plant species to meet ecological diversity standards. At KMA 2 and KMA 3 there are plant species that were present but not included within the study plot. These included Fourwing saltbush, Cliffrose, Juniper and Flax. The frequency of the plants is below the potential native community standard (PNC) but is within the range site description. The Seaman fire that occurred in 1984 aided immensely in moving the allotment towards achieving standard by moving it out of a woody dominated site. The composition of desirable native grasses to shrub is well within standard and therefore is in conformance with guidelines.

There is one lentic spring on the Black Horse Allotment. It is fully developed with a pipeline and therefore will not have Proper Functioning Condition (PFC) conducted.

Standard #3: Habitat and Biota
Conclusion: Standard met (achieved). Existing grazing management and levels of grazing use on the Black Horse Allotment are insignificant factors within the allotment. The Seaman Fire that took place in 1984 burned 16,500 acres and caused a natural state in transition shift within the allotment that prevented the system from transitioning into a woody dominated site with a significantly reduced herbaceous understory. Utilization data and personal observations shows the allotment has generally been grazed moderate or less for the recent past years. In these areas, the current grazing management system conforms to the guidelines.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

The current grazing management system that is in place is in a good balance with the allotment objectives. The soils throughout the allotment reflect an adequate ability to resist accelerated erosion, maintain soil productivity and sustain the hydrologic cycle. The allotment possesses the components to maintain ecological processes and sustain

appropriate uses. The upland indicators which include canopy and ground cover, including litter, live vegetation, and biological crusts are appropriate to the potential of the ecological sites. The allotments habitats sustain a level of biodiversity appropriate for the area and conducive to appropriate uses.

PART 4 MANAGEMENT PRACTICES TO CONFORM WITH GUIDELINES AND ACHIEVE STANDARDS

Discussion:

Several management practices are recommended to conform to the Guidelines in order to continue meeting or make significant progress towards meeting the Standards for Rangeland Health. In general, livestock need to continue to be managed in a way to encourage even distribution throughout the allotment as well as continue with a rest rotation system.

Recommendations:

1. Maintain season of use as per the 1996 Final Multiple Use Decision (FMUD) for the Seaman Herd Management Area. Up to 14 days extension (in accordance with 4130.3-2) for grazing may be permitted on a case by case basis and requires the approval of the authorized officer prior to use. Active use AUMs may not be exceeded.

2. Salt and/or mineral supplements for livestock shall be located no closer than ¼ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock. Supplements are to be placed ½ mile from existing waters.

3. Maximum allowable use levels would be established as follows:

- Perennial grasses: 40% prior to 5/1 not to exceed 50% of 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) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- Perennial shrubs and half-shrubs: 45% use on current year's growth.

This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

4. Wildlife escape ramps will be installed and maintained by the permittee at each trough used on the allotment (permanent or temporary).

/s/ Bonnie Waggoner **8/5/2008**
Bonnie Waggoner, Date
Invasive, Non-Native Species

/s/ Kari Harrison **8/6/2008**
Kari Harrison Date
Soil, Water Quality, Air Quality, Flood Plains
Riparian/Wetlands

/s/ Lynn Wulf **8/5/2008**
Lynn Wulf Date
Cultural Resources

/s/ Ben Noyes **8/8/2008**
Ben Noyes Date
Wild Horse and Burros

/s/ Rick Baxter **8/13/2008**
Rick Baxter Date
Wildlife Biologist, Special Status Animals
Migratory Birds, Special Status Plants

/s/ Dave Jacobson **8/8/2008**
Dave Jacobson Date
Wilderness Values

/s/ Melanie Peterson **8/6/2008**
Melanie Peterson Date
Hazardous Materials

/s/ Elvis Wall **8/6/2008**
Elvis Wall Date
Native American Concerns/Tribal Coordination

Reviewed by:

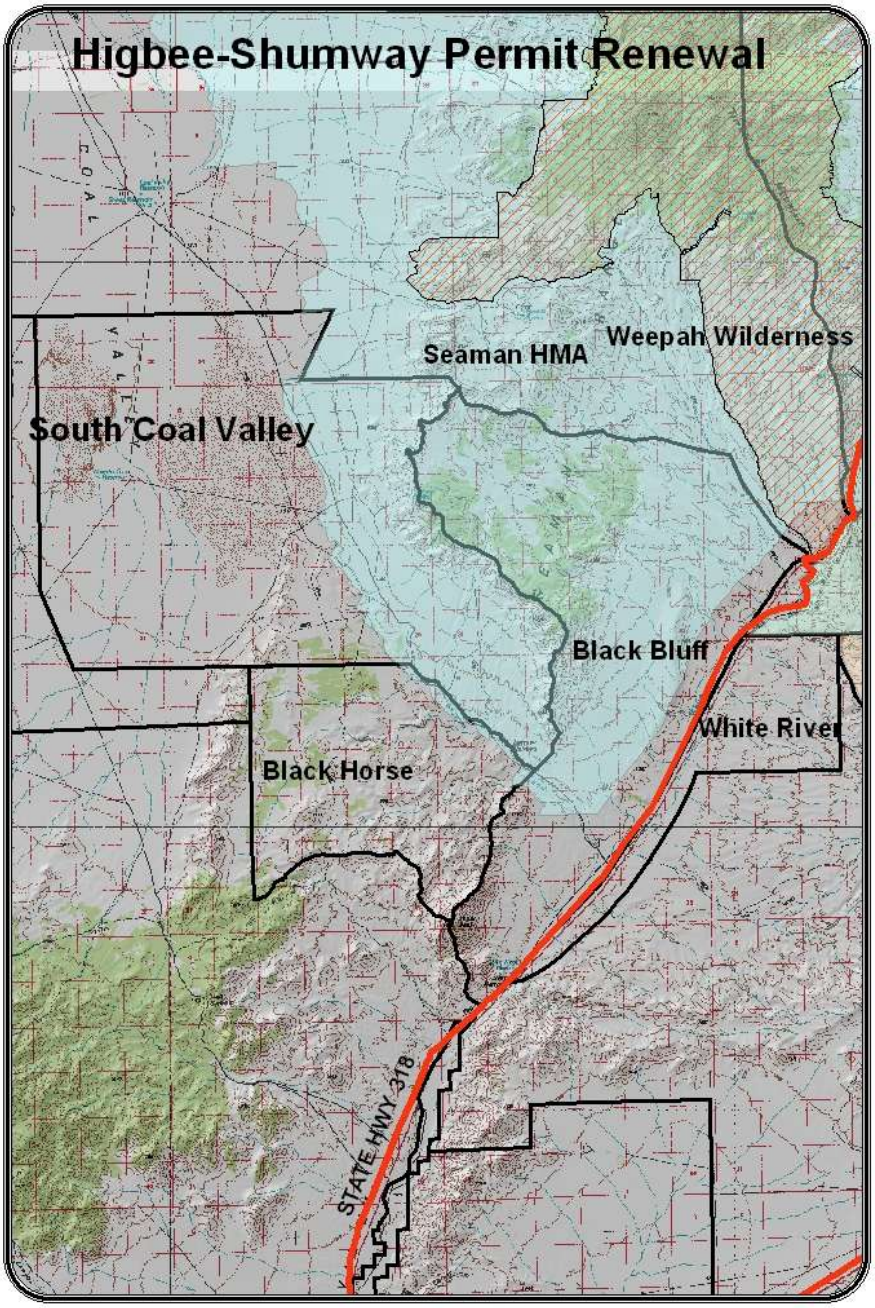
/s/ Chris Mayer **8/6/2008**
Chris Mayer Date
Supervisory Natural Resource Specialist

/s/ Troy Grooms **8/5/2008**
Prepared by: Date

Troy Grooms
Rangeland Management Specialist

I concur:

/s/ Ron Clementsen **8/14/2008**
Ron Clementsen Date
Caliente Field Office Manager


Higbee-Shumway Permit Renewal
Seaman HMA
Weepah Wilderness
South Coal Valley
Black Bluff
White River
Black Horse
STATE HWY 318

APPENDIX I

DATA ANALYSIS – SOUTH COAL VALLEY ALLOTMENT

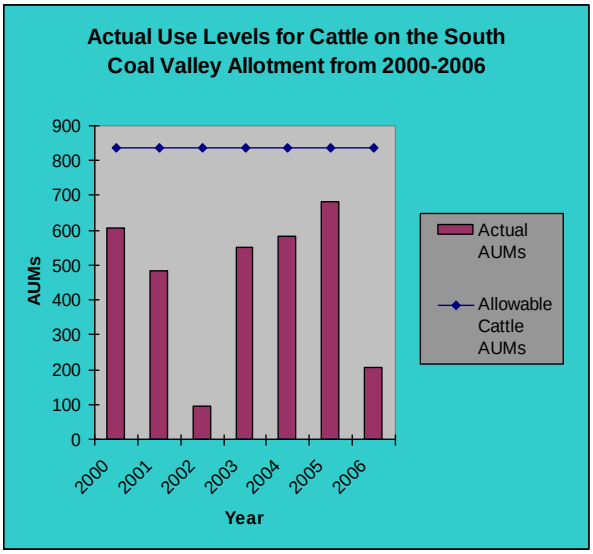
Grazing authorizations were examined for the permittee for grazing years 2000-2006. The licensed use ranged from 120 to 1,555 AUMs during the period. Reduced grazing use occurred due to both BLM and permittee initiative.

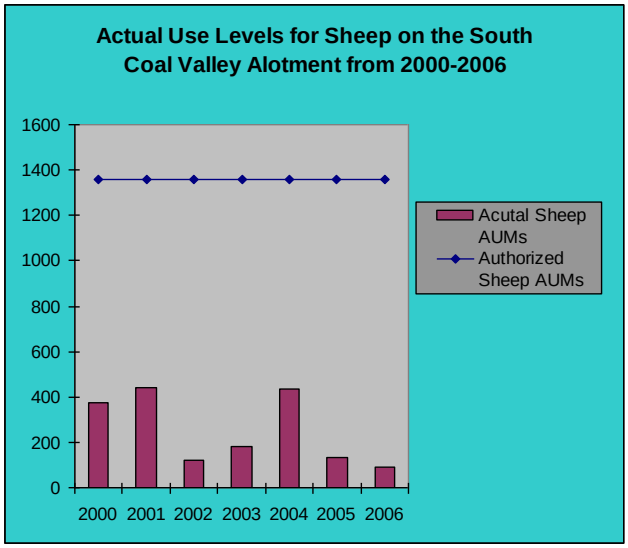
Permittee	Allotment	Year	Period of Use	Permitted Use (AUMs)	Actual Use	Non-Use (AUMs)
Higbee Bros.	South Coal Valley	2000	9/1-5/16	118	87	31
Varlin Higbee	South Coal Valley	2000	9/1-5/16	152	0	152
Nolan Shumway	South Coal Valley	2000	9/1-5/16	566	518	48
Higbee Bros.	South Coal Valley	2001	9/1-5/16	118	143	0
Varlin Higbee	South Coal Valley	2001	9/1-5/16	152	0	152
Nolan Shumway	South Coal Valley	2001	9/1-5/16	566	340	226
Higbee Bros.	South Coal Valley	2002	9/1-5/16	118	0	118
Varlin Higbee	South Coal Valley	2002	9/1-5/16	152	0	152
Nolan Shumway	South Coal Valley	2002	9/1-5/16	566	97	469
Higbee Bros.	South Coal Valley	2003	9/1-5/16	118	212	0

Varlin Higbee	South Coal Valley	2003	9/1-5/16	152	234	0
Nolan Shumway	South Coal Valley	2003	9/1-5/16	566	105	461
Higbee Bros.	South Coal Valley	2004	9/1-5/16	118	110	8
Varlin Higbee	South Coal Valley	2004	9/1-5/16	152	149	3
Nolan Shumway	South Coal Valley	2004	9/1-5/16	566	325	241
Higbee Bros.	South Coal Valley	2005	9/1-5/16	118	120	0
Varlin Higbee	South Coal Valley	2005	9/1-5/16	152	181	0
Nolan Shumway	South Coal Valley	2005	9/1-5/16	566	380	186
Higbee Bros.	South Coal Valley	2006	9/1-5/16	118	0	118
Varlin Higbee	South Coal Valley	2006	9/1-5/16	152	0	152
Nolan Shumway	South Coal Valley	2006	9/1-5/16	566	207	359

Gracian Uhalde	South Coal Valley	2000	9/1-5/16	1,357 Sheep AUMs	374	983
Gracian Uhalde	South Coal Valley	2001	9/1-5/16	1,357 Sheep AUMs	443	914
Gracian Uhalde	South Coal Valley	2002	9/1-5/16	1,357 Sheep AUMs	119	1,238
Gracian Uhalde	South Coal Valley	2003	9/1-5/16	1,357 Sheep AUMs	183	1,174

Gracian Uhalde	South Coal Valley	2004	9/1-5/16	1,357 Sheep AUMs	436	921
Gracian Uhalde	South Coal Valley	2005	9/1-5/16	1,357 Sheep AUMs	380	977
Gracian Uhalde	South Coal Valley	2006	9/1-5/16	1,357 Sheep AUMs	91	1,266





Line Intercept Cover

Cover data was collected in 2008 at the key areas.

Current resource conditions related to the upland sites standard.

LINE INTERCEPT COVER DATA ANALYSIS*

KEY AREA INFORMATION	SPECIES	COMPOSITION BY SPECIES BASED % COVER
KEY AREA 1	Winterfat	55%
Range site: 029XY042NV	Galleta	37%
Desirable Cover For Site:10%-20%	Bud Sage	5%
Percent Cover Measured 2007: **6.02%**	Rabbit Brush	3%
	Forbs	Present
COVER BY GROUPS		

SHRUBS	63		
GRASSES	37		
FORBS	0		
KEY AREA 2			
Range site: 029XY042NV		Winterfat	81%
Desirable Cover For Site: 10%-20%		Shadscale	12%
Percent Cover Measured 2007: **10.3%**		Budsage	4%
Data collected outside of the burned area.		Galleta	1%
		Forbs	Present
COVER BY GROUPS			
SHRUBS	96		
GRASSES	1		
FORBS	Trace		
KEY AREA INFORMATION		SPECIES	COMPOSITION BY SPECIES BASED % COVER
KEY AREA 3		Shadscale	21%
Range site: 029XY008NV		Ephedra	21%
Desirable Cover For Site: 20%-30%		Galleta	32%
Percent Cover Measured 2007: **18.89%**		Rabbitbrush	21%
		Purple Three Awn	4%
		Bottlebrush Squirrel Tail	Trace
		Phlox	1%
		Globe mallow	Trace
COVER BY GROUPS			
SHRUBS	63		
GRASSES	36		
FORBS	1		

Utilization January 2008

Key Area	Percent Cover	Species Composition Based on Cover		
		Shrubs	Grasses	Forbs
KMA-1	6.02%	63%	37%	T%
KMA-2	10.3%	96%	1%	T%
KMA-3	18.89%	63%	36%	1%

Key Area	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized
1	Winterfat/9%	Bud Sage/7%	Small Galleta/15%
2	Small Galleta/5%	Winterfat/4%	
3	Winterfat/ 7%	Shadscale/ 4%	Bud Sage/3%

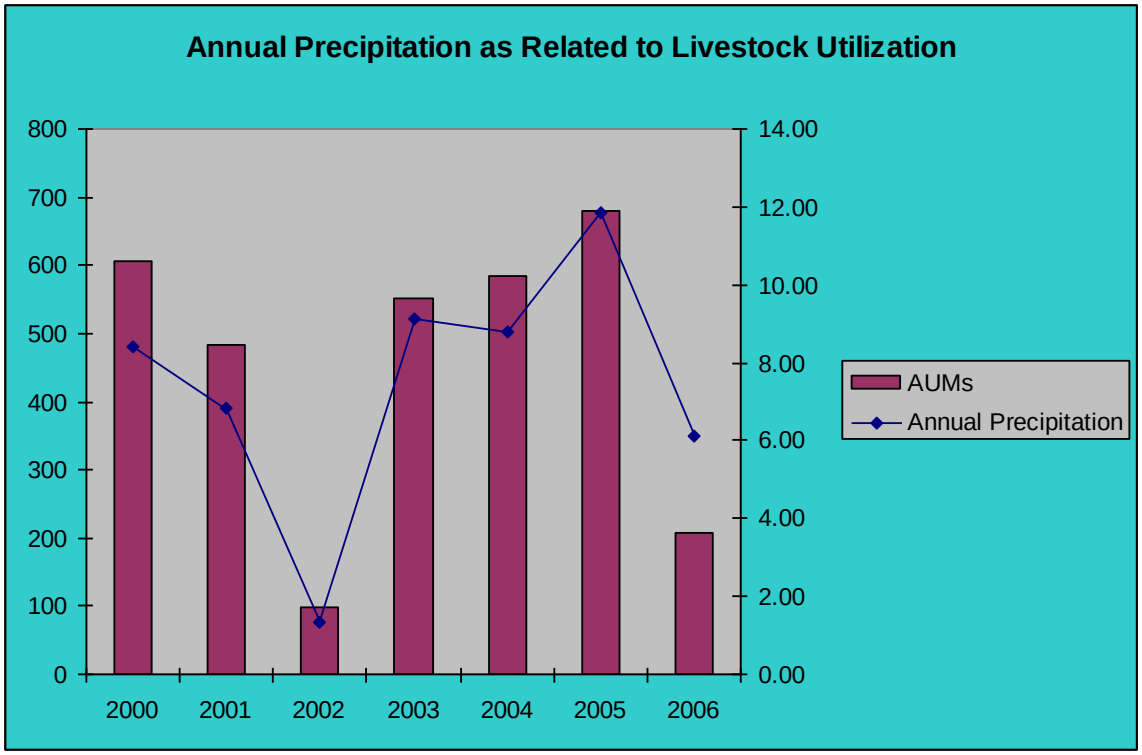
Utilization was last measured using the key forage plant method in January of 2008 during which time the allotment was being actively grazed by livestock since October of the previous year. Overall use levels for the vast majority of the allotment that has been measured over the previous years shows light to moderate utilization across the allotment. The majority of the use takes place along the east/west benches off of the sodic bottoms which is where the key areas are located.

Rapid Riparian Assessment

There are no lotic systems within the South Coal Valley Allotment and one lentic system at Seamen Spring. The spring is a fully developed range improvement and therefore will not have PFC conducted on it.

Precipitation Data

The precipitation data comes from the raincan on the Sand Springs Allotment (directly south of the South Coal Valley Allotment). Data is collected monthly (whenever possible) by the staff of the Caliente BLM Field Station.



Frequency Trend

Three key areas are established on the South Coal Valley Allotment. These sites were read in the mid 1990's and re-read in 1997 and 2008.

Trend for Key Area #1 is static
Trend for the South Coal Valley Allotment is typically static or upward for the lowlands and bench areas.

Trend for Key Area #2 shows to be upward, but is probably actually static. Precipitation data for 2002 indicates very little rain was received during the growing season until July. This would have resulted in very little growth, which would have made it difficult to identify grass plants and could result in data not showing what is actually going on.

Trend for Key Area #3 is showing a static trend. The key species for this key area is Small galleta, fourwing saltbush and Winterfat,

APPENDIX II

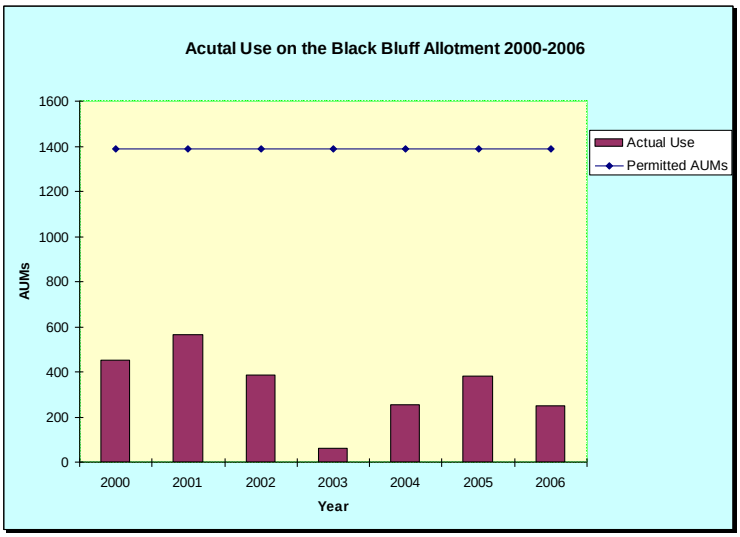
DATA ANALYSIS – BLACK BLUFF ALLOTMENT

Grazing authorizations were examined for the permittee for grazing years 2000-2006.

Permittee	Allotment	Year	Period of Use	Permitted Use (AUMs)	Actual Use	Non-Use (AUMs)
Higbee Bros.	Black Bluff	2000	9/1-5/16	101	95	6
Varlin Higbee	Black Bluff	2000	9/1-5/16	744	0	744
Nolan Shumway	Black Bluff	2000	9/1-5/16	85	85	0
Charles Wadsworth	Black Bluff	2000	9/1-5/16	456	271	185
Higbee Bros.	Black Bluff	2001	9/1-5/16	101	41	60

Varlin Higbee	Black Bluff	2001	9/1-5/16	744	0	744
Nolan Shumway	Black Bluff	2001	9/1-5/16	85	85	0
Charles Wadsworth	Black Bluff	2001	9/1-5/16	456	441	15
Higbee Bros.	Black Bluff	2002	9/1-5/16	101	65	36
Varlin Higbee	Black Bluff	2002	9/1-5/16	744	187	557
Nolan Shumway	Black Bluff	2002	9/1-5/16	85	0	85
Charles Wadsworth	Black Bluff	2002	9/1-5/16	456	135	321
Higbee Bros.	Black Bluff	2003	9/1-5/16	101	0	101
Varlin Higbee	Black Bluff	2003	9/1-5/16	744	59	685
Nolan Shumway	Black Bluff	2003	9/1-5/16	85	0	85
Charles Wadsworth	Black Bluff	2003	9/1-5/16	456	0	456
Higbee Bros.	Black Bluff	2004	9/1-5/16	101	50	51
Varlin Higbee	Black Bluff	2004	9/1-5/16	744	206	538
Nolan Shumway	Black Bluff	2004	9/1-5/16	85	0	85
Charles Wadsworth	Black Bluff	2004	9/1-5/16	456	0	456
Higbee Bros.	Black Bluff	2005	9/1-5/16	101	0	101

Varlin Higbee	Black Bluff	2005	9/1-5/16	744	379	365
Nolan Shumway	Black Bluff	2005	9/1-5/16	85	0	85
Charles Wadsworth	Black Bluff	2005	9/1-5/16	456	0	456
Higbee Bros.	Black Bluff	2006	9/1-5/16	101	0	101
Varlin Higbee	Black Bluff	2006	9/1-5/16	744	250	494
Nolan Shumway	Black Bluff	2006	9/1-5/16	85	0	85
Charles Wadsworth	Black Bluff	2006	9/1-5/16	456	0	456



Line Intercept Cover

Cover data was collected in 2008 at the key areas.

Current resource conditions related to the upland sites standard.

LINE INTERCEPT COVER DATA ANALYSIS*

KEY AREA INFORMATION		SPECIES	COMPOSITION BY SPECIES BASED ON % COVER
STUDY SITE 1		Spiny menodora	39%
Range site: 029XY016NV		Ephedra	36%
Desirable Cover For Site:20%-30%		Rabbit Brush	25%
Percent Cover Measured 2008: **23.6%**			
		Forbs	Present
COVER BY GROUPS			
SHRUBS	100		
GRASSES	0		
FORBS	0		
STUDY SITE 2			
Range site: 029XY020NV		Winterfat	85%
Desirable Cover For Site: 10%-20%		Fourwing	15%
Percent Cover Measured 2008: **9%**		Budsage	1%
		Forbs	Present
COVER BY GROUPS			
SHRUBS	100		
GRASSES			
FORBS	Trace		

Utilization January 2008

Key Area	**Percent Cover**	**Species Composition Based on Cover**		
		Shrubs	**Grasses**	**Forbs**
Study Site 1	23.6%	100%	0%	T%
Study Site 2	9%	100%	0%	T%

Study Site 1	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized
1	Spiney Menadora/9%	Ephedra/22%	
2	Fourwing Saltbush/55%	Winterfat/40%	Budsage/15%

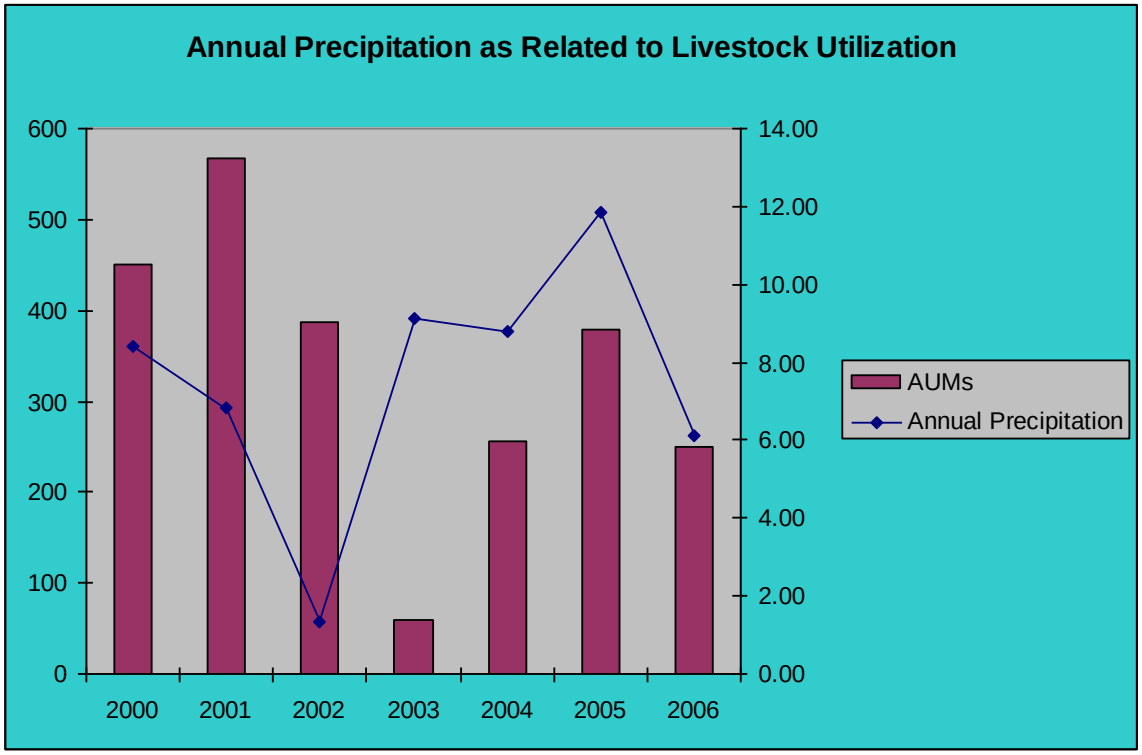
Utilization was last measured using the key forage plant method in January of 2008. The livestock had been or where in the process of being removed by the permittees as the monitoring was taking place. Overall use levels for the vast majority of the allotment that has been measured over the previous years shows light to moderate utilization across the upper benches of the allotment with little to no use along the west side of the seamen range. The majority of the use takes place along the Winterfat bottoms where utilization has been heavy with no rest during the critical growing season.

Rapid Riparian Assessment

There are no lotic or lentic systems within the Black Bluff Allotment.

Precipitation Data

The precipitation data comes from the raincan on the Sand Springs Allotment (directly south of the South Coal Valley Allotment). Data is collected monthly (whenever possible) by the staff of the Caliente BLM Field Station.



Frequency Trend

Trend for Study Site 1 shows to be downward; this is partially due to constant grazing during the critical growing season with no rest rotation on the allotment. Also, livestock use was quiet high during 2001 and 2002 which was years of drought for that area.

Trend for Key Area #2 is showing a downward trend. This is also partially due to livestock grazing. Grazing during the critical growing season is detrimental to Winterfat and other cool season species where there is no rest rotation system in place.

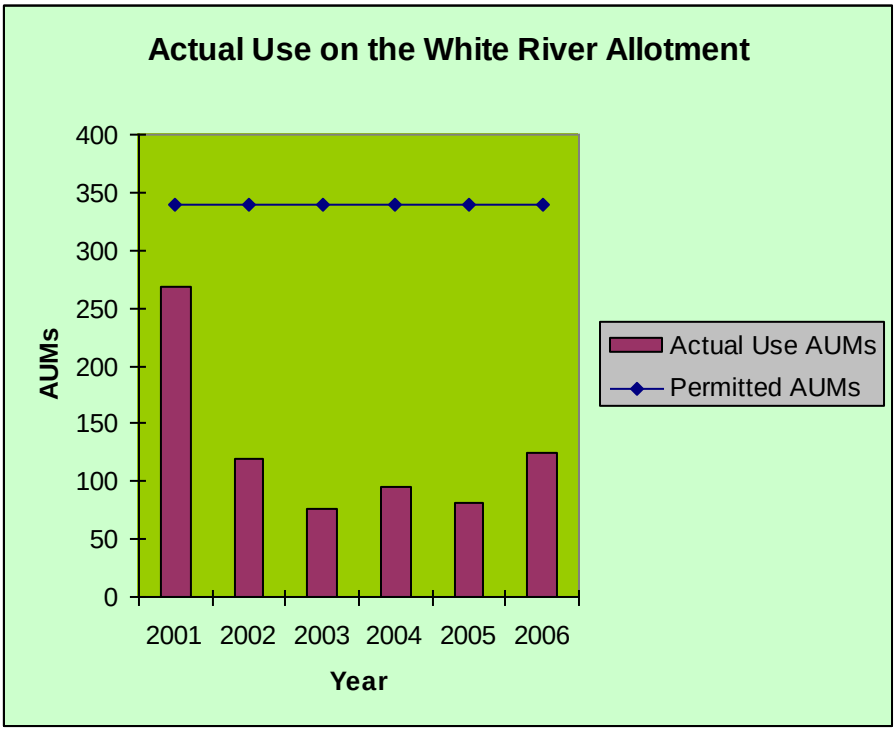
APPENDIX III

DATA ANALYSIS – WHITE RIVER ALLOTMENT

Grazing authorizations were examined for the permittee for grazing years 2001-2006.

White River Actual Use

Permittee	Allotment	Year	Period of Use	Permitted Use (AUMs)	Actual Use	Non-Use (AUMs)
Higbee Brothers	White River	2001	10/1-5/15	340	269	71
Higbee Brothers	White River	2002	10/1-5/15	340	120	220
Higbee Brothers	White River	2003	10/1-5/15	340	77	263
Higbee Brothers	White River	2004	10/1-5/15	340	95	245
Higbee Brothers	White River	2005	10/1-5/15	340	82	258
Higbee Brothers	White River	2006	10/1-5/15	340	125	215



Line Intercept Cover

Cover data was collected in 2008 at the key areas.

Current resource conditions related to the upland sites standard.

LINE INTERCEPT COVER DATA ANALYSIS*

KEY AREA INFORMATION		SPECIES	COMPOSITION BY SPECIES BASED ON % COVER
KMA 1		Winterfat	98%
Range site: 029XY020NV		Bud Sage	T
Desirable Cover For Site:10%-20%		Fourwing	1%
Percent Cover Measured 2008: **2.89%**			
		Forbs	Present
COVER BY GROUPS			
SHRUBS	100		
GRASSES	0		
FORBS	0		

STUDY SITE 2			
Range site: 029XY016NV		Spiny menodora	8%
Desirable Cover For Site: 20%-30%		Ephedra	57%
Percent Cover Measured 2008: **13.62%**		Spiny Hopsage	6%
		Fourwing	9%
		Sagebrush	18%
COVER BY GROUPS		Squirrel Tail	3%
SHRUBS	97%		
GRASSES	3%		
FORBS	Trace		

Utilization

Key Area	Percent Cover	Species Composition Based on Cover		
		Shrubs	Grasses	Forbs
KMA 1	2.89%	100%	0%	T%
KMA 2	13.62%	97%	3%	T%

KMA 1	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized
1	Winterfat/12%		
2	Fourwing Saltbush/32%	Ephedra/22%	Squirreltail/18%

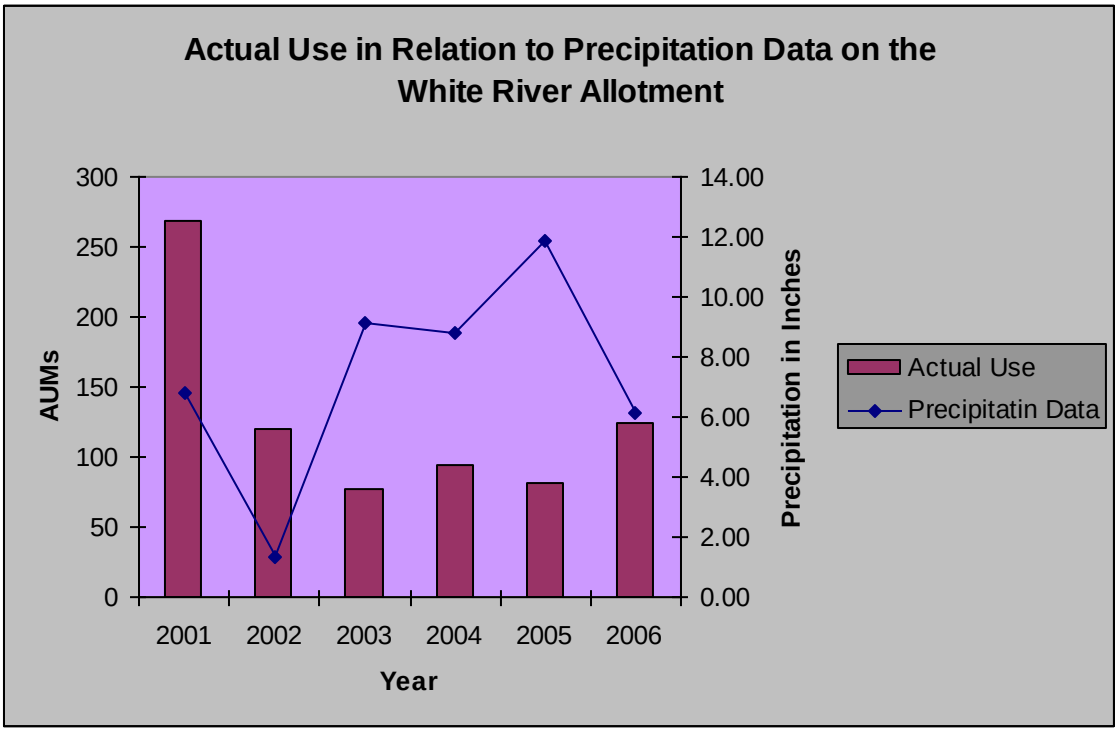
Utilization was last measured using the key forage plant method in January of 2008. Utilization on Winterfat at KMA 1 was minimal due to reduced livestock use the previous year. Most of the livestock concentration was in the upper west pasture. Wildlife use on the allotment is evident all over. Overall use levels for the vast majority of the allotment that has been measured over the previous years shows light to moderate utilization across the upper benches of the allotment. The majority of the use takes place along the Winterfat bottoms where utilization has been heavy with no rest during the critical growing season.

Rapid Riparian Assessment

There are no lotic or lentic systems within the White River Allotment.

Precipitation Data

The precipitation data comes from the raincan on the Sand Springs Allotment (directly south of the South Coal Valley Allotment). Data is collected monthly (whenever possible) by the staff of the Caliente BLM Field Station.



Frequency Trend

Based on professional observations and previous monitoring data the trend for Key Area 1 shows to be downward; this is due to constant grazing during the critical growing season with no rest rotation on the allotment combined with drought conditions. Also, livestock use was quiet high during 2001 and 2002 which was years of drought for that area.

Trend for Key Area #2 is showing a downward trend. This is also partially due to livestock grazing combined with drought conditions. Grazing during the critical growing season is detrimental to Indian ricegrass and other cool season species where there is no rest rotation system in place.

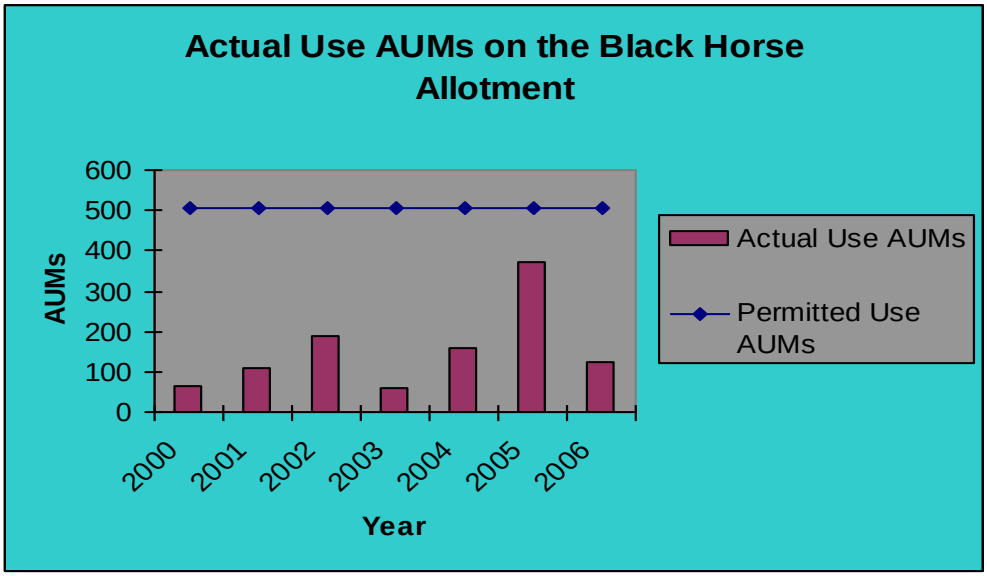
APPENDIX IV

DATA ANALYSIS – BLACK HORSE ALLOTMENT

Grazing authorizations were examined for the permittee for grazing years 2000-2006. The licensed use ranged from 120 to 1,555 AUMs during the period. Reduced grazing use occurred due to both BLM and permittee initiative.

Permittee	Allotment	Year	Period of Use	Permitted Use (AUMs)	Actual Use	Non-Use (AUMs)
Higbee Bros.	Black Horse	2000	10/1-5/15	264	65	199
Varlin Higbee	Black Horse	2000	3/1-2/28	240	0	240
Higbee Bros.	Black Horse	2001	10/1-5/15	264	79	185
Varlin Higbee	Black Horse	2001	3/1-2/28	240	31	209
Higbee Bros.	Black Horse	2002	10/1-5/15	264	65	199
Varlin Higbee	Black Horse	2002	3/1-2/28	240	121	119
Higbee Bros.	Black Horse	2003	10/1-5/15	264	31	233
Varlin Higbee	Black Horse	2003	3/1-2/28	240	27	213
Higbee Bros.	Black Horse	2004	10/1-5/15	264	36	228
Varlin Higbee	Black Horse	2004	3/1-2/28	240	122	118

Higbee Bros.	Black Horse	2005	10/1-5/15	264	187	77
Varlin Higbee	Black Horse	2005	3/1-2/28	240	183	57
Higbee Bros.	Black Horse	2006	10/1-5/15	264	0	264
Varlin Higbee	Black Horse	2006	3/1-2/28	240	125	115



Line Intercept Cover

Cover data was collected in 2008 at the key areas.

Current resource conditions related to the upland sites standard.

LINE INTERCEPT COVER DATA ANALYSIS*

KEY AREA INFORMATION	SPECIES	COMPOSITION BY SPECIES BASED ON % COVER
KEY AREA 1	Ephedra	34%
Range site: 029XY009NV	Wyoming sagebrush	64%
Desirable Cover For Site:15-25%	Bottle Squirreltail	2%
Percent Cover Measured 2008: **14.95%**		

COVER BY GROUPS			
SHRUBS	98		
GRASSES	2		
FORBS	T		
KEY AREA 2			
Range site: 029XY006NV		Ephedra	56%
Desirable Cover For Site: 15%-25%		Indian ricegrass	1%
Percent Cover Measured 2008: **15.33%**		Bottle Squirreltail	5%
		Small galleta	24%
		Rabbitbrush	13%
COVER BY GROUPS		Forbs	Present
SHRUBS	69	Cliffrose	Present
GRASSES	30	Wyoming sagebrush	Present
FORBS	1		
KEY AREA INFORMATION		SPECIES	COMPOSITION BY SPECIES BASED ON % COVER
KEY AREA 3		Black sagebrush	62%
Range site: 029XY015NV		Rabbitbrush	13%
Desirable Cover For Site: 3%-15%		Ephedra	15%
Percent Cover Measured 2008: **14.82%**		Bottlebrush squirreltail	1%
		Small galleta	9%
		Indian ricegrass	Trace
		Wyoming sagebrush	Trace
		Blue flax	Trace
COVER BY GROUPS			
SHRUBS	88		
GRASSES	10		
FORBS	2		

Utilization February 2008

Key Area	Percent Cover	Species Composition Based on Cover		
		Shrubs	Grasses	Forbs
KMA-1	14.95%	98%	2%	T%
KMA-2	15.33%	69%	30%	1%
KMA-3	14.82%	88%	10%	2%

KMA 1	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized	Key Forage Plant/% Utilized

1	Squirreltail/7%		
2	Indian ricegrass/32%	Ephedra/18%	Squirreltail/26%

Utilization was last measured using the key forage plant method in March of 2008. Livestock were actively grazing during the time the monitoring took place. Overall use levels for the vast majority of the allotment that has been measured over the past years shows light to moderate utilization across the allotment. The majority of the use takes place along the east/west benches off of the sodic bottoms within the neighboring Black Bluff and South Coal Valley Allotments.

Ecological Condition

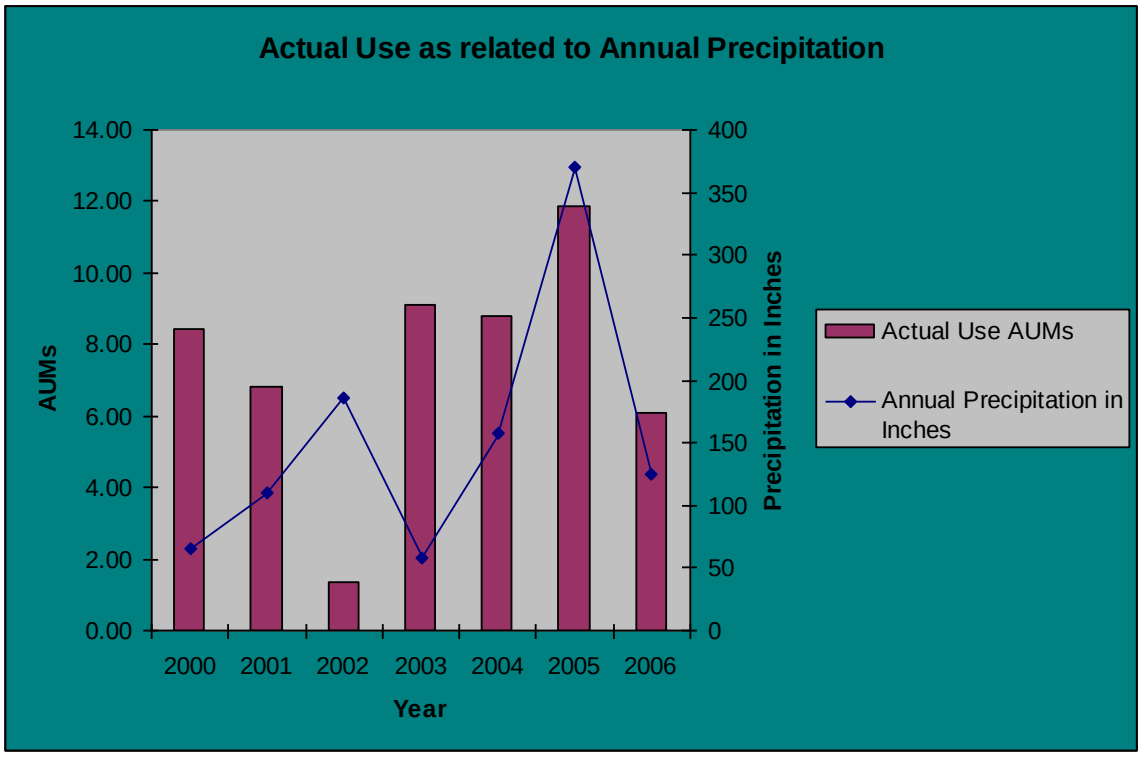
Ecological condition has not been done on the Black Horse Allotment.

Rapid Riparian Assessment

There are no lotic systems within the Black Horse Allotment and one lentic system at an un-named spring. The spring is a fully developed range improvement and therefore will not have PFC conducted on it.

Precipitation Data

The precipitation data comes from the raincan on the Sand Springs Allotment (directly south of the Black Horse Allotment). Data is collected monthly by the staff of the Caliente BLM Field Station.



Frequency Trend

No frequency or Trend data exists for the Black Horse Allotment. This allotment did not come into existence until the sighing of the Seaman Final Multiple Use Decision in 1998. Prior to the FMUD the area was part of the Seaman use area.

APPENDIX F – RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS

Term Grazing Permit Renewal for John Uhalde & Co.
West Timber Mountain, South Coal Valley, Black Bluff, Murphy Gap, Batterman Wash, White River Trail, & Worthington Mountain Allotments

Lincoln & Nye County, Nevada

On January 7, 2009 a Noxious & Invasive Weed Risk Assessment was completed for the term grazing permit renewals for John Uhalde & Co. (#2704736) for the White River Trail, Batterman Wash, Black Bluff, Murphy Gap, South Coal Valley, West Timber Mountain, and Worthington Mountain Allotments in Lincoln and Nye Counties, NV. This permittee also holds a grazing permit for allotments located in the northern portion of the Ely District, which is being done under a separate permit renewal and is not a part of this scoping. The issuance of this term permit may be for a period of up to 10 years based. Changes to the permit may be necessary based on the outcome of the standards determination documents. The current term permits and allotment information for the permittee is as follows:

ALLOTMENT		LIVESTOCK		GRAZING PERIOD		% Public Land	Total Active AUMs
Name	Number	Number	Kind	Begin	End		
West Timber Mountain	11020	822	S	12/01	04/15	100	735
South Coal Valley	10120	1517	S	12/01	04/15	100	1357
Black Bluff	10122	293	S	12/01	04/15	100	262
Murphy Gap	10110	735	S	12/01	04/15	100	657
Batterman Wash	11018	887	S	12/01	04/15	100	2093
		243	C	11/15	03/31		
		80	C	04/01	06/15		
White River Trail	11005	4800	S	11/22	11/30	100	600
				04/04	04/13		
Worthington Mountain	11021	695	C	01/13	05/31	100	5641
		3200	S	12/15	04/10		

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. West Timber Mountain, South Coal Valley, Murphy Gap, and the Worthington Mountain Allotments currently have no documented weed infestations within their boundaries. The following species are found within the boundaries of the Black Bluff Allotment:

Centaurea stoebe Spotted knapweed

Tamarix spp.	Salt cedar

The following species are found within the boundaries of the Batterman Wash Allotment:

Cirsium vulgare	Bull thistle
Lepidium draba	Hoary cress
Onopordum acanthium	Scotch thistle

The following species are found within the boundaries of the White River Trail Allotment:

Acroptilon repens	Russian knapweed
Lepidium draba	Hoary cress

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

Acroptilon repens	Russian knapweed
Carduus nutans	Musk thistle
Centaurea stoebe	Spotted knapweed
Cirsium arvense	Canada thistle
Cirsium vulgare	Bull thistle
Lepidium draba	Hoary cress
Lepidium latifolium	Tall whitetop
Linaria dalmatica	Dalmatian toadflax
Onopordum acanthium	Scotch thistle
Tamarix spp.	Salt cedar

These areas were last inventoried for noxious weeds in 2007. While not officially documented the following non-native invasive weeds probably occur in or around both allotments: cheatgrass (*Bromus tectorum*), field bindweed (*Convolvulus arvensis*), Russian olive (*Elaeagnus angustifolia*), halogeton (*Halogeton glomeratus*), horehound (*Marrubium vulgare*), and Russian thistle (*Salsola kali*).

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

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

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

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

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

This project rates as Moderate (7) at the present time. If new weed infestations establish within the allotments this could have an adverse impact those native plant communities however, since there are many weed infestations currently within the allotments, those impacts would be limited. Also, any increase of cheatgrass could alter the fire regime in the area.

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

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

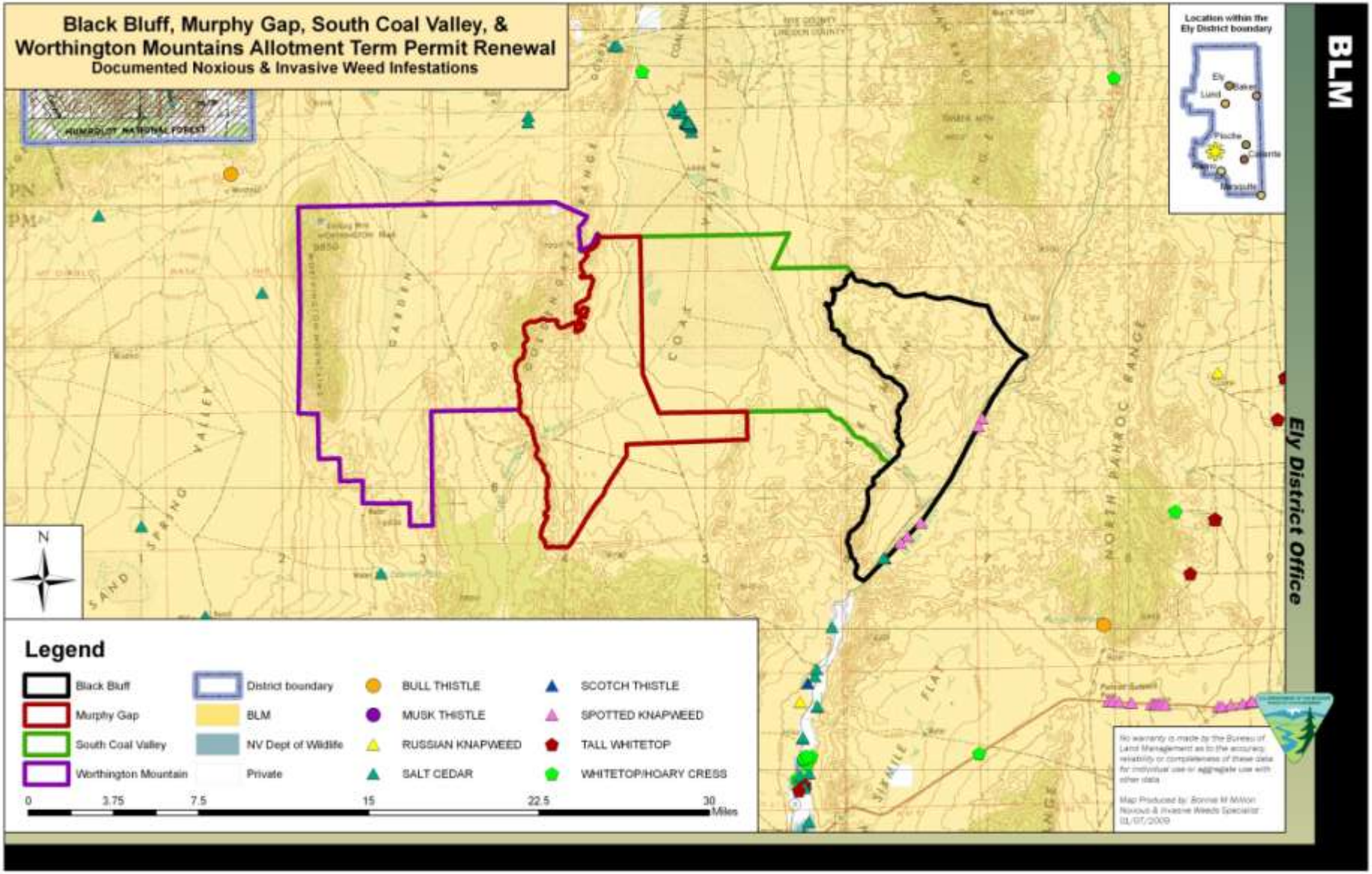
For this project, the Risk Rating is Moderate (32). This indicates that the project can proceed as planned as long as the following measures are followed:

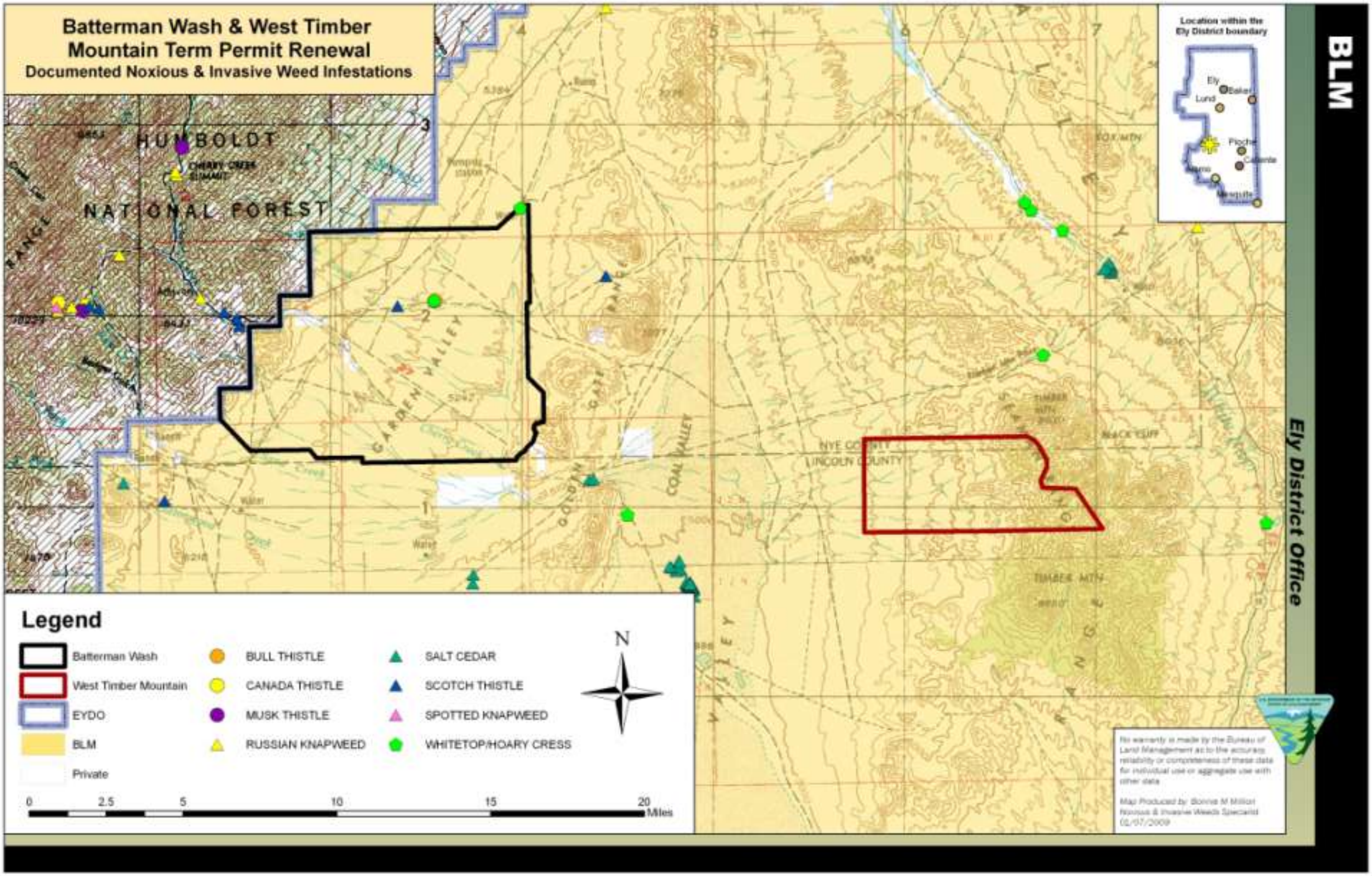
- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for feed or bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely 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.

- 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.

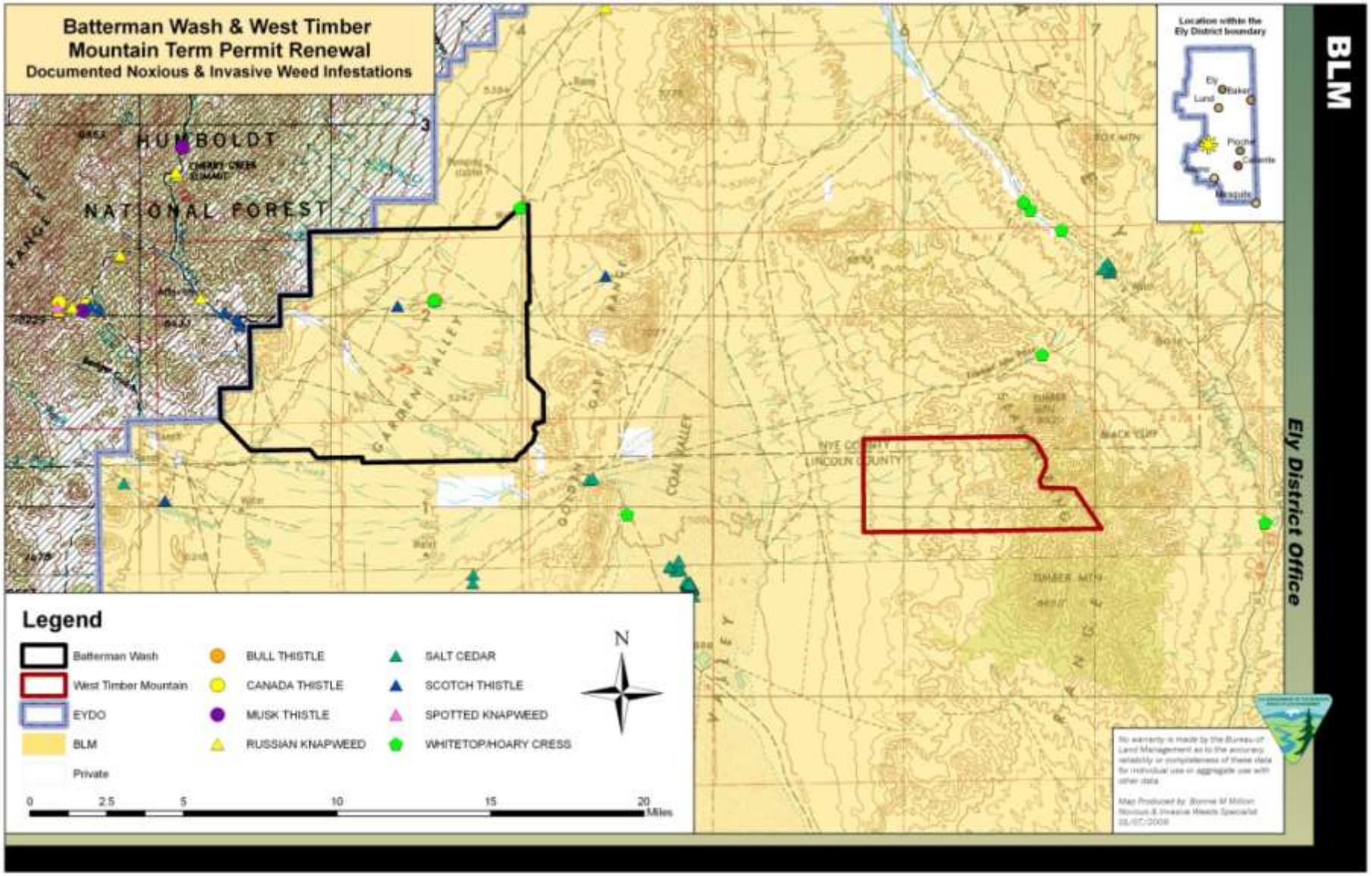
Reviewed by: /s/Bonnie M. Million 01/07/2009

Bonnie M. Million Date
Ely District Noxious & Invasive Weeds Coordinator


Black Bluff, Murphy Gap, South Coal Valley, & Worthington Mountains Allotment Term Permit Renewal
Documented Noxious & Invasive Weed Infestations
Location within the Ely District boundary
BLM
Ely District Office
Legend
Black Bluff
Murphy Gap
South Coal Valley
Worthington Mountain
District boundary
BLM
NV Dept of Wildlife
Private
BULL THISTLE
MUSK THISTLE
RUSSIAN KNAPWEED
SALT CEDAR
SCOTCH THISTLE
SPOTTED KNAPWEED
TALL WHITETOP
WHITETOP/HOARY CRESS
0
3.75
7.5
15
22.5
30
Miles
N



Batterman Wash & West Timber Mountain Term Permit Renewal
Documented Noxious & Invasive Weed Infestations
HUMBOLDT
NATIONAL FOREST
GARDEN VALLEY
COAL VALLEY
GOLDEN GATE RANGE
NYE COUNTY
LINCOLN COUNTY
TIMBER MTN
BLACK CLIFF
Location within the Ely District boundary
Ely
Baker
Lund
Pioche
Caliente
Alamo
Mesquite
BLM
Ely District Office
Legend
Batterman Wash
West Timber Mountain
EYDO
BLM
Private
BULL THISTLE
CANADA THISTLE
MUSK THISTLE
RUSSIAN KNAPWEED
SALT CEDAR
SCOTCH THISTLE
SPOTTED KNAPWEED
WHITETOP/HOARY CRESS
N
0
2.5
5
10
15
20
Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual use or aggregate use with other data.
Map Produced by: Bonnie M Million Noxious & Invasive Weeds Specialist 01/07/2009


Batterman Wash & West Timber
Mountain Term Permit Renewal
Documented Noxious & Invasive Weed Infestations
HUMBOLDT
NATIONAL FOREST
GARDEN VALLEY
COAL VALLEY
FOX MTN
TIMBER MTN
BLACK CLIFF
NYE COUNTY
LINCOLN COUNTY
Location within the Ely District boundary
Ely
Baker
Lund
Pioche
Caliente
Mesquite
BLM
Ely District Office
Legend
Batterman Wash
West Timber Mountain
EYDO
BLM
Private
BULL THISTLE
CANADA THISTLE
MUSK THISTLE
RUSSIAN KNAPWEED
SALT CEDAR
SCOTCH THISTLE
SPOTTED KNAPWEED
WHITETOP/HOARY CRESS
N
0
2.5
5
10
15
20
Miles