

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

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**Preliminary Environmental Assessment**

DOI-BLM-NV-L030-2011-0002-EA Term Permit Renewal

March 15, 2012

Grazing Term Permit Renewal for Newby Cattle Co. (# 2705036) on the Garden Spring (#01065), White Rock (#01078) and Summit Spring (#01077) Allotments

*Lincoln County, Nevada*

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## **1.0 Introduction: Need for Action**

This document identifies issues, analyzes alternatives, and discloses the potential environmental impacts associated with the proposed term grazing permit renewal for authorization 2705036 on the Garden Springs (01065), White Rock (01078) and Summit Spring (01077) allotments.

These land and water based allotments are located within Lincoln County in the southern portion of the Ely District BLM, 34 miles south of Caliente, Nevada, and 27 miles northwest of Mesquite, Nevada (Appendix I, Maps 1 and 2). They encompass 89,812 acres and are located within the Tule Desert Watershed (#218).

Neither the allotments nor any of their portions are located within a Wild Horse Herd Management Area (HMA). In 2004 the White Rock allotment had approximately 25 percent (8000 acres) of the south end designated as part of the Mormon Mountain Wilderness Area. Also in 2004, two percent (900 acres) of the Garden Spring allotment was designated as part of the Clover Mountains Wilderness area. In 1994 the Summit Spring allotment had 6 percent (2,799 acres) of its area designated as desert tortoise critical habitat.

### **General Allotment Location:**

USGS Map: 1:100K Clover Mountains 1:24K: Garden Spring, Blue Nose Peak, Toquop Gap, Lyman Crossing, Carp, Tule Spring, Lime Mountain, Jacks Mountain, Mesquite NW Landscape Area: Tule Desert Legal Description: General location of these allotments: T.08S R.68-69E, T.09S R.68-69E, T.10S R.68-70E

## **1.1 Background**

Current management practices are a reflection of Best Management Practices (BMPs) as coordinated between the permittee and the appropriate BLM Range Management Specialist.

## **1.2 Introduction of the Proposed Action.**

The BLM proposes to fully process and issue a new term grazing permit, for authorization #2705036, which would authorize livestock grazing on the Garden Spring, White Rock, and Summit Springs allotments.

Recommendations to grazing management will establish an Allowable Use Level (AUL) along with other Best Management Practices (BMPs) within the allotment. Standards and Guidelines for Grazing Administration developed by the Mojave-Southern Great Basin Resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997 are applied. The AUL and BMPs would assist in achieving or maintaining these Standards.

The BLM collected and analyzed monitoring data, and conducted professional field observations, as part of the permit renewal process. This information was used to evaluate livestock grazing management and rangeland health within the Garden Spring, White Rock, and Summit Spring Allotments. Subsequently, an evaluation of rangeland health along with

recommendations associated with grazing management practices, in the form of a Standards Determination Document (SDD), was completed in 2011 (Appendix II). A summary of the RAC Standards assessment is found in Table 1.2-1, 1.2-2, and 1.2-3 below.

**Table 1.2-1. Summary of Assessment of the Mojave-Southern Great Basin Area Standards for the Garden Springs Allotment**

Standard	Status
1. Soils	Achieved
2. Riparian and Wetland Sites Standard	Achieved
3. Habitat and Biota Standard	Achieved

**Table 1.2-2. Summary of Assessment of the Mojave-Southern Great Basin Area Standards for the White Rock Allotment**

Standard	Status
1. Soils	Achieved
2. Riparian and Wetland Sites Standard	Achieved
3. Habitat and Biota Standard	Achieved

**Table 1.2-3. Summary of Assessment of the Mojave-Southern Great Basin Area Standards for the Summit Springs Allotment**

Standard	Status
1. Soils	Not Achieving the Standard, but making significant progress towards
2. Riparian and Wetland Sites Standard	Achieved
3. Habitat and Biota Standard	Not Achieving the Standard, but making significant progress towards

### 1.3 Need for the Proposed Action.

The need for the proposal is to authorize grazing use on public lands in a manner which satisfies the Federal Land Policy and Management Act (FLPMA) while being consistent with multiple use, sustained yield and the Nevada’s Mojave-Southern Great Basin Area Standards for Rangeland Health; to manage livestock in accordance with all applicable laws, regulations, and policies; and, to renew the term grazing permit for authorization #2705036 on the Garden Spring, White Rock, and Summit Springs Allotments while introducing BMPs – along with specific (mandatory) terms and conditions – directed toward achieving and/or maintaining the applicable Standards and Guidelines for Grazing Administration.

Additionally, there is a need to fully process permit #2705036 as the current permit was issued under the Appropriations Act.

The need for the proposal is also to authorize grazing use in a manner that satisfies Sec. 402 of the Federal Land Policy and Management Act (FLPMA) as well as Sec. 3 of the Taylor Grazing

Act while also being consistent with multiple uses, sustained yield, Endangered Species Act (ESA), and the Standards for Rangeland Health.

#### **1.4 Objectives for the Proposed Action.**

- To renew the grazing term permit for Authorization 2705036 and authorize grazing in accordance with applicable laws, regulations, and land use plans (LUP) on 89,812 acres of public land
- To improve and maintain vegetative health and growth conditions on the allotment while continuing to meet the Standards and Guidelines for rangeland health as approved and published by Mojave-Southern Great Basin RAC

#### **1.5 Relationship to Planning**

The proposed action is in conformance with the Ely District Record of Decision and Approved Resource Management Plan (RMP) (August 2008), which states as a goal (p. 85): “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.” It further states as an objective (p. 86): “To allow livestock grazing to occur in a manner and at levels consistent with multiple use, sustained yield, and the standards for rangeland health.”

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

Management Action LG-3 states, “Allow allotments or portions of allotments within desert tortoise habitat, but outside of Areas of Critical Environmental Concern (ACECs) to remain at current stocking levels unless a subsequent evaluation indicates a need to change the stocking level.”

Management Action LG-4 states, “Continue to monitor and evaluate allotments to determine if they are continuing to meet or are making significant progress toward meeting the standards for rangeland health. Table E-1 in Appendix E (RMP 2008) shows the current grazing preference, season-of-use, and kind of livestock for those allotments that currently are evaluated for meeting standards, are making progress towards achieving the standards, or are in conformance with the policies as determined either through the allotment evaluation process or associated with fully processed term permit renewals. 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. Such changes will continue to meet the RMP goals and objectives, including the standards for rangeland health.

Management Action LG-5 states, “Maintain the current grazing preference, season-of-use, and kind of livestock until the allotments that have not been evaluated for meeting or making progress toward meeting the standards or are in conformance with the policies are evaluated. Depending on the results of the standards assessment, maintain or modify grazing preference,

seasons-of-use, kind of livestock and grazing management practices to achieve the standards for rangeland health. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Ensure changes continue to meet the RMP goals and objectives, including the standards for rangeland health.”

Management Action LG-8 states, “Implement management actions for desert tortoise habitat contained in the 2008 Biological Opinion.”

### **1.5.1 Relationship to Other Plans**

The proposed action is consistent with the Revised Recovery Plan for the Mojave Population of the Desert Tortoise (USFWS 2011).

The proposed action is also consistent with the *Lincoln County Public Lands Policy Plan* (2010) which states (p. 38):

**“Policy 4-4:** Grazing should utilize sound adaptive management practices consistent with the BLM Mojave-Southern Great Basin Resource Advisory Council’s Standards and Guidelines for Grazing Administration. Lincoln County supports the periodic updating of the Nevada Rangeland Monitoring Handbook to help establish proper levels of grazing. Lincoln County supports accountability between BLM and Lincoln County Commission to assure these management practices are carried out in a timely and professional manner.

**Policy 4-5:** Allotment management strategies should be developed that provide incentives to optimize stewardship by the permittee. Flexibility should be given to the permittee to reach condition standards for the range. Monitoring should utilize all science-based relevant studies, as described in the current Nevada Rangeland Monitoring Handbook. Changes to these standards should involve pre-planning collaborative consultation with the permittee and Lincoln County Commission.”

### **1.5.2 Relationship to Acts, Executive Orders, Agreements and Guidance**

The proposed action was analyzed within the scope of other relevant Acts, Executive Orders and associated regulations, Agreements and Guidance listed below and found to be in compliance:

- Programmatic Biological Opinion for the Bureau of Land Management Ely District Resource Management Plan (84320-2008-F-0078)
- Nevada Comprehensive Bird Conservation Plan (2010)
- Nevada Comprehensive Wildlife Conservation Plan (2005)

- Mormon Mountains, Meadow Valley Range and Delamar Mountains Wilderness Management Plan (2009)
- Clover Mountain and Tunnel Spring Wilderness Management Plan (2010)
- Nevada Department of Wildlife Bighorn Sheep Management Plan (2001)
- State Protocol Agreement between the Bureau of Land Management (BLM), Nevada and the Nevada State Historic Preservation Office (October 26, 2009)
- National Historic Preservation Act (Public Law 89-665; 16 U.S.C. 470 as amended through 2000)
- Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (12 February 1997).
- Migratory Bird Treaty Act (1918 as amended) and Executive Order 13186 (1/11/01).
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds (2001)
- The National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994)
- The Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996)

### **1.4.3 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 Ely District Office mails an annual Consultation, Cooperation, and Coordination (CCC) Letter to individuals and organizations who have expressed an interest in rangeland management related actions. Those receiving the annual CCC letter have the opportunity to request, from the District Office, more information regarding specific actions (e.g., term permit renewals).

On December 22, 2009 the Ely BLM annual CCC letter was mailed which notified interested publics of the livestock grazing term permit renewals scheduled for 2010 and requested comments. The letter included Authorization #2705036, on the Garden Springs, Summit Springs, and White Rock Allotments for which no public scoping comments were received.

On January 8, 2010 a letter was sent to local Native American tribes requesting comments by February 8, 2010 regarding the permit renewal process for Authorization #2705036, on the Garden Springs, Summit Springs, and White Rock Allotments. No comments were received.

On February 3, 2010 the Nevada Department of Wildlife was sent a copy of the proposed action via ftp. No comments were received.

On February 16, 2010 Newby Cattle Co. (Authorization #2705036) was sent a letter informing them of the proposed term permit renewal process scheduled for their allotment during 2010 and arranged a meeting to discuss the proposed action. No comments were received in response to the letter.

On April 14, 2010 the proposal to fully process the term permit, for Authorization 2705036, was posted on the Ely BLM internet site (navigate to "<http://www.blm.gov/nv>" and click on the Ely District). No comments received.

The BLM interdisciplinary team internally scoped the project on February 18, 2010 and identified resource issues. Resources identified as potentially impacted include migratory birds, desert tortoise, other special status animal species, and wild horses.

## **2.0 Alternatives Including the Proposed Action**

### **2.1 Proposed Action**

The BLM proposes to fully process and issue new term grazing permit for Authorization 2705036, which would authorize livestock grazing on the Garden Spring, White Rock, and Summit Springs Allotments.

Changes to grazing management may be made, which would establish or adjust an Allowable Use Level (AUL) along with other Best Management Practices (BMPs) within the allotment. Standards and Guidelines for Grazing Administration developed by the Mojave-Southern Great Basin Resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997. The AUL and BMPs would assist in achieving or maintaining these Standards.

Allotment Specific Management Recommendations:

1. Change the season of use from October 1 – May 31 to November 1 – April 30 for Garden Spring and White Rock.
2. Change the season of use to November 1 – February 28 for Summit Spring until a fence is constructed to protect desert tortoise critical habitat. Funding from Section seven is being sought to complete the fence construction.
3. Maximum allowable use levels for plant functional groups will be as follows:
  - 40 percent of annual growth of grasses, forbs and shrubs from March 1 to October 31
  - 50 percent of current year's growth on perennial grasses and 45 percent of current year's growth on shrubs and forbs from November 1 to February 28

Livestock will be removed from the allotment before utilization objectives are met or no later than five days after meeting the utilization objectives. Any deviation in livestock movement will require approval from the Authorized Officer.

4. Put 40 percent of AUMS into voluntarily non-use for fuels management purposes, while the remaining 60 percent will remain in Active Use. This leaves 1693, 1738, and 433 AUM's in Active Use in the Garden Spring, White Rock, and Summit Spring allotments, respectively. This would place 1130, 1158, and 289 AUM's in voluntary non-use for a period of 10 years in the Garden Spring, White Rock and Summit Spring allotments, respectively. Voluntary non-use of AUM's is for fuels management purposes and is not a permanent revocation of grazing privileges.
5. BLM may reinstate voluntarily non-use AUM's as Active AUM's on an annual basis as resource conditions dictate. Voluntarily non-use AUM's (1130, 1158, and 289 AUM's in the Garden Spring, White Rock and Summit Spring allotments, respectively) will be available on an ANNUAL BASIS if resource conditions require reduction of fine fuels buildup. These AUM's will show as a line item on the permit that will allow for their use in years that require fine fuels reduction. Annual use of any AUM's in voluntary non-use must be applied for, evaluated by the ID Team and approved by the Authorizing Officer.

**2.1.1 Current Permit**

The current term grazing permit, for the Authorization #2705036, has been issued for the period 1/21/2010 – 2/28/2012. Tables 2.1.1-1 and 2.1.1-2, below, display the current term grazing permit.

**Table 2.1.1-1.** Current Term Grazing Permit for Authorization #2703530 on the Garden Spring, White Rock, and Summit Spring Allotment.

ALLOTMENT		LIVESTOCK		GRAZING PERIOD		** percent Public Land	AUMs		
Name	Number	* Number	Kind	Begin	End		Active Use	Hist. Susp. Use	Permitted Use
Garden Spring	01065	348	C	10/1	5/31	100	2777	0	2777
Garden Spring	01065	4	H	10/1	5/31	100	32	0	32
White Rock	01078	361	C	10/1	5/31	100	2880	0	2880
Summit Spring	01077	90	C	10/1	5/31	100	715	0	715

\* This number is approximate

\*\* This is for billing purposes only.

**2.1.2 Proposed Term Permit**

Table 2.1.2-1 below, displays the proposed term grazing permit for Authorization #2705036.

**Table 2.1.2-1.** Proposed Term Grazing Permit for Authorization #2705036 on the Garden Spring, White Rock, and Summit Spring Allotments.

ALLOTMENT		LIVESTOCK		GRAZING PERIOD		** percent Public Land	AUMs		
Name	Number	* Number	Kind	Begin	End		Active Use	Hist. Susp. Use	Permitted Use
Garden Spring	01065	348	C	11/1	4/30	100	2777	0	2777
Garden Spring	01065	4	H	11/1	4/30	100	32	0	32
White Rock	01078	361	C	11/1	4/30	100	2880	0	2880
Summit Spring	01077	90	C	11/1	4/30***	100	715	0	715

\* This number is approximate

\*\* This is for billing purposes only

\*\*\*This assumes a fence is constructed to protect desert tortoise habitat. Without a fence grazing will end on February 28.

The new term permit would include terms and conditions which further assist in achieving and maintaining the Standards and Guidelines for Grazing Administration in addition to other pertinent land use objectives for livestock use (Appendix III).

The following terms and conditions from the *Programmatic Biological Opinion for the Bureau of Land Management's Ely District Resource Management Plan* (File No. 84320-2008-F-0078) would be included in the term grazing permit:

2.a. Prior to initiation of an activity within desert tortoise habitat, a desert tortoise awareness program shall be presented to all personnel who will be onsite, including but not limited to contractors, contractors' employees, supervisors, inspectors, and subcontractors. This program will contain information concerning the biology and distribution of the desert tortoise and other sensitive species, their legal status and occurrence in the project area; the definition of "take" and associated penalties; speed limits; the terms and conditions of this biological opinion including speed limits; the means by which employees can help facilitate this process; responsibilities of workers, monitors, biologists, etc.; and reporting procedures to be implemented in case of desert tortoise encounters or noncompliance with this biological opinion.

2.b. Tortoises discovered to be in imminent danger during projects or activities covered under this biological opinion, may be moved out of harm's way.

2.c. Desert tortoises shall be treated in a manner to ensure they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises will be kept shaded at all times until it is safe to release them. No desert tortoise will be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95°F. Ambient air temperature will be measured in the shade, protected from wind, at a height of two inches above the ground surface. No desert tortoise will be captured if the ambient air temperature is anticipated to exceed 95°F before handling and relocation can be completed. If the ambient air temperature exceeds 95°F during handling or processing, desert tortoises will be kept shaded in an environment that does not exceed 95°F and the animals will not be released until ambient air temperature declines to below 95°F.

2.d. Desert tortoises shall be handled by qualified individuals. For most projects, an authorized desert tortoise biologist will be onsite during project activities within desert tortoise habitat. Biologists, monitors, or anyone responsible for conducting monitoring or desert tortoise field activities associated with the project will complete the Qualifications Form (Appendix D) and submit it to the Service for review and approval as appropriate. The Service should be allowed 30 days for review and response.

2.e. A litter-control program shall be implemented to minimize predation on tortoises by ravens drawn to the project site. This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles following the close of each work day, and the proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when

trash is removed from the site. The litter-control program will apply to all actions. A litter-control program will be implemented by the responsible federal agency or their contractor, to minimize predation on tortoises by ravens and other predators drawn to the project site.

7.a. Livestock grazing may continue in desert tortoise habitat under the previous conditions established under the Caliente Management Framework Plan (MFP) Amendment until such time the term permit come up for renewal based on the existing permit expiration dates. Those allotments or portion of allotments in desert tortoise critical habitat will be a priority for review and issuance of term permit. During this interim period for grazing within desert tortoise habitat outside the Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs: Livestock use may occur from March 1 to October 31, as long as forage utilization management levels are monitored and do not exceed 40 percent on key perennial grasses, shrubs and perennial forbs; and between November 1 and February 28/29, provided forage utilization management levels are monitored and do not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs. If the utilization management levels are reached, livestock will be moved to another location within the allotment or taken entirely off the allotment. No livestock grazing will occur in desert tortoise critical habitat March 1 through October 31.

7.b. Livestock grazing in desert tortoise habitat shall be managed in accordance with the most current version of the Desert Tortoise Recovery Plan, including allotments or portions of allotments that become vacant and occur within desert tortoise critical habitat outside of ACECs. Grazing may continue in currently active allotments until such time they become vacant. BLM will work with the permittees of active allotments to implement changes in grazing management to improve desert tortoise habitat which may include use of water, salt and mineral licks, or herding to move livestock; changes in season of use and/or stocking rates; installation of exclusionary fences; reconfiguring pasture or allotment boundaries; and retiring pastures or allotments.

7.c. When BLM proposes to issue a term permit or other type of grazing authorization, BLM shall provide the following to the Service with their request to append the action to this biological opinion:

- An allotment-level assessment of current conditions (relative to listed species habitat); if unknown, a description of, and timeframe for actions BLM will implement to collect such information;
- a plan and schedule for monitoring listed species habitat on the allotment;
- a description of the grazing system and how it will minimize conflicts with listed species habitat;
- proposed actions or remedies (e.g., reduce utilization levels, reduce AUMs, limit season-of-use) if listed species habitat has not attained the goals for the allotment; and
- other information requested by the Service that is necessary to conclude activity-level consultation.

7.d. BLM and Service will cooperatively develop livestock grazing utilization levels or other thresholds, as appropriate for each of the listed species. These levels or thresholds shall be incorporated into each of the allotment term permit for those allotments that overlap with habitat for the listed species.

7.e. The permittee shall be required to take immediate action to remove any livestock that move into areas unavailable for grazing. If straying of livestock becomes problematic, BLM, in consultation with the Service, will take measures to ensure straying is prevented.

7.f. All vehicle use in listed species habitat associated with livestock grazing, with the exception of range improvements, shall be restricted to existing roads and trails. Permittees and associated workers will comply with posted speed limits on access roads. No new access roads will be created.

7.g. Use of hay or grains as a feeding supplement shall be prohibited within grazing allotments. Where mineral and salt blocks are deemed necessary for livestock grazing management they will be placed in previously disturbed areas at least one half mile from riparian areas wherever possible to minimize impacts to flycatchers and listed fishes and their habitat. In some cases, blocks may be placed in areas that have a net benefit to tortoise by distributing livestock more evenly throughout the allotment, and minimizing concentrations of livestock that result in habitat damage. Water haul sites will also be placed at least one half mile from riparian areas.

7.h. Site visits shall be made to active allotments by BLM rangeland specialists and other qualified personnel, including Service biologists, to ensure compliance with the terms and conditions of the grazing permit. Any item in non-compliance will be rectified by BLM and permittee, and reported to the Service.

7.i. Livestock levels shall be adjusted to reflect significant, unusual conditions that result in a dramatic change in range conditions (e.g., drought and fire) and negatively impact the ability of the allotment to support both listed species and cattle.

In addition, the following BMPs would be included, as Other Terms and Conditions, in the term grazing permit.

#### Best Management Practices

The following Best Management Practices would be added to the term grazing permit for Authorization #2705036:

1. To improve livestock distribution the placement of mineral blocks or salt blocks will be a minimum distance of one half mile from water sources, riparian areas, sensitive sites, and cultural resource sites.
2. Cattle will continue to be rotated throughout the allotment by providing water at different locations at different times. This includes the use of wells, reservoirs, spring developments, and water hauls. All water use will be in accordance with Nevada State Law.
3. Use in the Garden Spring, White Rock and Summit Spring Allotments will be in accordance with the Mojave-Southern Great Basin Area Standards and Guidelines.

To address the Clover Mountain and Mormon Mountain Wilderness Areas, created through the Lincoln County Conservation Recreation and Development Act P.L. 108-424, the following term and condition will be added to comply with the Wilderness Act of 1964 (P.L. 88-577) (see Congressional Grazing Guidelines in Appendix V of this EA):

4. No motorized access is permitted within the designated Mormon Mountain or Clover Mountain Wilderness Areas without approval of the Field Manager. Motorized access may be permitted for emergency situations, or where practical alternatives for reasonable grazing management needs are not available and such motorized use would not have an adverse impact on the natural environment.

In relation to grazing, there would be no additional terms and conditions needed for management practices to conform to guidelines to either make progress toward or to maintain achievement of the Standards for Rangeland Health.

The renewal of the term grazing permit would be for a period of up to 10 years. If the grazing privileges for a particular permit are transferred during this ten year period - with no changes to the terms and conditions of the permit in question - the new term permit would be issued for the remainder of the 10 year period.

### **2.1.3 Invasive, Non-Native Species and Noxious Weeds**

A Weed Risk Assessment was completed for this project (Appendix IV). The measures listed in the Weed Risk Assessment will be implemented when grazing occurs on the allotment, to minimize the spread of weeds.

### **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. Condition and trend 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” (pg. 88).

Under guidance of the Endangered Species Act and through Section 7 consultation with the U.S. Fish and Wildlife Service, a species specific monitoring plan was developed to monitor desert tortoise habitat.

### **2.3 No Action Alternative**

The No Action Alternative would reflect the status quo. The term permit would be issued without changes to grazing management or modifications to the terms and conditions of the permit. The season of use would not be changed and would remain as stated in table 2.1.1-1. The

The renewal of the term grazing permit would be for a period of up to 10 years. If the permittee transfers the grazing privileges during this ten year period - with no changes to the terms and conditions of the permit in question – the BLM will issue a new term permit for the remainder of the 10 year period.

## **2.4 No Grazing Alternative**

Under this alternative a new term grazing permit would not be issued, once the current term permit expired, resulting in no authorized livestock grazing on the allotment.

This alternative was also considered and analyzed in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) which is addressed below.

## **2.5 Alternatives Considered but Eliminated from Further Analysis**

The Ely Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) (November 2007) analyzes the Environmental Impacts of livestock grazing for the Proposed RMP and four alternatives (p.4.16-1 to 4.16-15.), including a no-grazing alternative (Alternative D). It also analyzes environmental impacts on vegetative resources from livestock grazing under the Proposed RMP and the four alternatives (4.5-1 to 4.5-28), including the no-grazing alternative. No further analysis is necessary in this document for Alternatives A, B and C. However, the no-grazing alternative is additionally analyzed in this EA. The following is a list of the four Alternatives contained within the PRMP/FEIS (November 2007) (Volume II):

- Alternative A, The continuation of current existing (No Action alternative)
- Alternative B, the maintenance and restoration of healthy ecological systems
- Alternative C, commodity production

## **3.0 Description of the Affected Environment and Associated Environmental Consequences**

### **3.1 Allotment Information**

The **Garden Spring** Allotment is 38,823 public land acres in Lincoln County, and is located 35 miles south of Caliente, Nevada (Appendix II). This allotment is within Desert Tortoise habitat and the Clover Mountain Wilderness Area occurs in a small portion (924 acres) of the northwest corner of the allotment.

The **White Rock** Allotment is 32,916 public land acres in Lincoln County, and is located 35 miles south of Caliente, NV (Appendix II). This allotment is within Desert Tortoise habitat. The southwestern corner of the allotment has 7,836 acres within the Mormon Peak Wilderness Area.

The **Summit Spring** Allotment is 18,035 public land acres in Lincoln County and is located 35 miles south of Caliente, Nevada (Appendix II). This allotment is within Desert Tortoise habitat, with the southeastern portion of the allotment occurring in designated Desert Tortoise Critical

Habitat. No wilderness occurs within the Summit Spring allotment. The nearest wilderness area is the Mormon Mountain Wilderness Area, which is approximately two miles away.

### 3.2 Resources/Concerns Considered for Analysis - Proposed Action

The following items have been evaluated for the potential for significant impacts to occur, either directly, indirectly, or cumulatively, due to implementation of the proposed action. Consideration of some of these items is to ensure compliance with laws, statutes or executive orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general and to the Ely BLM in particular.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	No	The only effect to air quality from livestock grazing is a negligible quantity of fugitive dust and particulates from permittee vehicles.
Cultural Resources	No	<p>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).</p> <p>According to the Ely District Approved Resource Management Plan, August 2008, it is the goal of the Ely District to identify, preserve, and protect significant cultural resources and ensure they are available for appropriate uses by present and future generations. They are to protect and maintain these cultural resources on BLM-administered land in stable condition. To accomplish this they are to seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration or potential conflict with other resource uses by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act, Section 106. In accordance with this act, “any material remains of past human life or activities which are of archaeological interest” shall be assessed and secured “for the present and future benefits of the American People”. Therefore, all ground disturbing activities related to livestock grazing (such as fence construction, road construction, water developments, etc.) within the allotments associated with these Term Permits will be subject to Section 106 review and, if needed, SHPO consultation as per BLM Nevada’s implementation of the Protocol for cultural resources.</p> <p>Livestock grazing has been an historic use of federal lands, now managed by the Caliente Field Office, since the mid-19th century. The extent of effects from livestock grazing on cultural sites is difficult to determine, since extensive livestock grazing has occurred in this region for over 150 years. Though, it is likely the majority of the livestock-related impacts on cultural resources occurred prior to the passage of the Taylor Grazing Act in 1934.</p> <p>The BLM conducts field investigations and maintains files of archeological sites on public lands. Analyses of existing documentation indicates that concentrated livestock activities near water sources, along fences, and in areas where livestock seek shelter, could adversely affect cultural resources.</p> <p>The cultural staff will identify cultural properties being impacted by grazing activities to be monitored in order to determine condition, impacts, deterioration, and use of these properties. Site monitoring is conducted by BLM archeologists, law enforcement rangers, and trained site stewards, to identify</p>

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		impacts and evaluate site conditions. As necessary, strategies will be developed and implemented in order to reduce threats and resolve conflicts to the property.
Paleontological Resources	No	No currently identified paleontological resources are present in the project area.
Native American Religious Concerns and other concerns	No	Tribal coordination letters were sent out on January 8, 2010 for the 2010 term permit renewals, which included the Newby Cattle Co. Allotments, notifying the tribes of a 30 day comment period. No concerns were identified.  Direct impacts and cumulative impacts would not occur, because there were no identified concerns through coordination.
Noxious and Invasive Weed Management	No	Livestock grazing has the potential to spread noxious and invasive weeds.  This allotment has some mapped weed infestations. The design features of the proposed action in addition to the vigilant practices described in the Noxious Weed Risk Assessment (Appendix IV) will help prevent livestock grazing from spreading noxious and non-native, invasive weeds.  No additional analysis is needed.
Vegetative Resources	Yes	Impacts from livestock grazing on Vegetation Resources were analyzed on page 4.5-9 in the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Beneficial impacts to vegetative resources are consistent with the need and objectives for the proposed action. No further analysis is needed.  This resource has been further analyzed in the EA.
Rangeland Standards and Health	Yes	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.  Analysis of the proposed action and alternatives is provided in the affected environment and environmental impacts sections.
Forest Health <sup>1</sup>	No	There is a very small amount of pinyon-juniper woodlands on the north end of White Rock and Garden Spring Allotments which are inaccessible to grazing.
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 or alternatives.
Wilderness	Yes	The north end of Garden Spring has a small amount of the Clover Wilderness area; approximately 900 acres. This area is inaccessible and not likely to be impacted by grazing. The south end of White Rock allotment contains approximately 8000 acres of the Mormon wilderness area. There is a water haul site (existing before designation) that has an administrative right of way into the wilderness area.
Special Designations other than Designated Wilderness	No	No Special Designations occur within the project area.
Wetlands/Riparian Zones	Yes	There are lentic and lotic riparian systems within the grazing allotments. PFC was completed and these riparian areas and are evaluated in the Standards Determination Document.
Water Quality, Drinking/Ground	No	The Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) disclosed effects to Water Resources from livestock grazing on page 4.3-5.  The proposed action would not affect water quality (surface or groundwater

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		sources) or drinking water in the project area. No surface water in the project area is used as human drinking water sources and no impaired water bodies of the State on Nevada are present in the project area.
Water Resources (Water Rights)	No	The Proposed Action would not affect existing or pending water rights in the project analysis area. All alternatives would not change or recommend changes to State of Nevada permitted uses of water in the project analysis area.
Floodplains	No	No floodplains have been identified by HUD or FEMA within the allotment. Floodplains, as defined in Executive Order 11988, may exist in the area, but would not be affected by the proposed action or alternatives.
Watershed Management	No	<p>The Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) disclosed effects to Watershed Management from livestock grazing activities on page 4.19-5. Further changes to livestock management may be recommended as a result of the watershed analysis process.</p> <p>The Proposed Action would not affect Watershed Management in the project analysis area. It would also not affect, or otherwise alter, the physical or biological processes which influence watershed health and function.</p>
Migratory Birds	No	The migratory bird species that occur in or near the project area are listed in Appendix V. There is the potential for livestock to trample migratory bird nests; however the likelihood of this happening is minimal because of the acreage of the grazing allotment and the permitted number of livestock over the past years. Furthermore, changes to the season of use would reduce the likelihood of nesting activity occurrence during the grazing period. No impacts to migratory bird populations as a whole would occur.
U.S. Fish and Wildlife Service(USFWS) Listed or proposed for listing Threatened or Endangered Species or critical habitat.*	Yes	The southern portion of Summit Springs contains some land designated as critical desert tortoise habitat. This area has been analyzed in the EA and SDD. The season of use for this area has been altered to protect critical habitat during the critical times for desert tortoise.
Special Status Plant Species, other than those listed or proposed by the UFWS as Threatened or Endangered	No	No special status plant species are present in these allotments.
Special Status Animal Species, other than those listed or proposed by the UFWS as Threatened or Endangered	Yes	Several special status animal species are present in these allotments.
Fish and Wildlife	No	<p>Impacts from livestock grazing on Fish and Wildlife are analyzed on pages 4.6-10 through 4.6-11 in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).</p> <p>Grazing would reduce the amount of available forage (grass and forbs); however, compliance with Ely Resource Management Plan standards for utilization percentages ensures that forage is present in the allotment after cattle are removed.</p>
Wild Horses	No	The project area was associated with two Horse Management Areas (HMA); Blue Nose Peak and Mormon Valley Mountains HMAs. The RMP (2008) changed the status of these two HMAs to Heard Areas (HA) with a target population of zero (0). A few horses still remain and will be gathered as resources allow.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Soil Resources	No	The Ely Proposed resource Management Plan/Final Environmental Impact Statement (November 2007) disclosed effects to Soil Resources resulting from livestock grazing actions on page 4.4-4.  Soils Resources, regarding soil condition within the project area, were discussed in the Standard Determination Document. It is expected that the Proposed Action would not lead to measureable effects within the grazing allotment.  Therefore, there are no anticipated impacts as a result of the Proposed Action.
Mineral Resources	No	There would be no modifications to mineral resources through the proposed action or alternatives; therefore, no direct or cumulative impacts would occur to minerals.
VRM	No	The proposed action is consistent with the VRM classifications 3 and 4 for the area; therefore no direct or cumulative impacts to visual resources would occur.
Recreation Uses	No	Design features identified in the proposed action would result in negligible impacts to recreational activities
Grazing Uses	Yes	Livestock grazing is analyzed in the EA.
Land Uses	No	There would be no modifications to land use authorizations through the proposed action, therefore no impacts would occur. No direct or cumulative impacts would occur to access and land use.
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 or alternatives.

<sup>1</sup>Healthy Forests Restoration Act projects only

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

The resources, listed within the above table that are not present within the Garden Spring, White Rock, or Summit Spring Allotments and, therefore, do not require a detailed analysis include: Paleontological Resources; Native American Religious Concerns and other concerns; Forest Health; Special Designations other than Designated Wilderness; Wastes-Hazardous or Solid; Floodplains; Special Status Plant Species-other than those listed or proposed by the FWS as Threatened or Endangered; Wild Horses.

The resources, listed within the above table, that are present within the Garden Spring, White Rock, or Summit Spring Allotments and were assigned a “No” under the “Issue(s) Analyzed” column, because they are negligibly affected by the proposed action, include: Mineral Resources; Water Quality-Drinking/Ground; Migratory Birds; VRM and Recreation Uses; Land Uses and Environmental Justice.

The following are resources, listed within the above table, which are also present within the Garden Spring, White Rock, or Summit Spring Allotments and which were also assigned a “No” under the “Issue(s) Analyzed” column, because they are negligibly affected by the proposed action. However, an analysis of grazing impacts on these resources may be found in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007), on the noted pages, and include: Air Quality; Cultural Resources (page 4.9-5); Water Resources (page 4.3-5); Watershed Management (page 4.19-8); Fish and Wildlife (pages 4.6-10 through

4.6-11); Soil Resources (page 4.4-4). Consequently, these resources do not require a further detailed analysis.

However, the following is a detailed analysis regarding Vegetative Resources, Rangeland Standards and Health, Wilderness, Wetlands and Riparian Resources, and Grazing Uses. These three resources were assigned a “Yes” under the “Issue(s) Analyzed” column in the above table; and have been identified by the BLM interdisciplinary team as resources within the affected environment that merit a detailed analysis. An analysis of grazing impacts on the former two resources may be found in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007), on the following noted pages: Vegetative Resources (page 4.5-9); Rangeland Standards and Health (pages 4.16-3 through 4.16-4).

### **3.3 Resources/Concerns Analyzed**

The resources/concerns analyzed include Vegetative Resources, Rangeland Standards and Health, Grazing Uses, Wilderness, Wetlands/Riparian Zones, U.S. Fish and Wildlife Service (USFWS) Listed or proposed for listing Threatened or Endangered Species or critical habitat, and Special Status Animal Species, other than those listed or proposed by the UFWS as Threatened or Endangered.

#### **3.3.1 Vegetative Resources, Rangeland Standards and Health and Grazing Uses**

##### **3.3.1.1 Affected Environment**

Section 3.1 above describes some basic information about the Garden Spring, White Rock, and Summit Spring Allotments. The allotment is used mostly for winter and early to mid-spring grazing. Under the Proposed Action, a majority of spring grazing would be eliminated. Plant communities consist of various desert shrubs and grasses. A more detailed list of these species is displayed in the table under Standard 3 of the SDD.

##### **3.3.1.2 Environmental Consequences**

###### Proposed Action

An assessment and evaluation of livestock grazing management’s achievement of the standards and conformance to the guidelines (Standards Determination Document or SDD) was completed in conjunction with this project (Appendix II). It showed that the applicable Standards (Standards I, II and III) were achieved on Garden Spring and White Rock allotments. Standards I and III were not achieved, but making significant progress on the Summit Spring allotment. The reason for not achieving is due to wildland fire as analyzed in the SDD.

Annual use on the allotment has frequently been significantly below the combined Total Active AUMs of the permit with an average of 43 percent actual use of permitted AUMs over the past 10 years. This voluntary non-use of active AUMs is due to fluctuations in annual production. Stocking rate calculations were not determined for these allotments because the primary forage is composed of annual grass species which fluctuates greatly depending on annual weather

patterns. However, key forage plant use areas showed slight to moderate use levels, indicating that the grazing system is meeting proper utilization objectives. This also indicates that the 10-year average actual use levels are appropriate for the current conditions and are supporting vegetation production at levels that are sustainable to grazing while maintaining or improving ecological function. During an average year, grazing 100 percent of Total Active Use could have the potential to exceed the moderate use level (45 percent). However, during years of high annual grass production, such as 2005 which resulted in catastrophic wildfires, grazing 100 percent of Total Active AUMs would not exceed the moderate use level (45 percent) and would reduce fuel loading and fire intensity and severity. The authorization of total AUMs on the allotments, during any given year, would be based on annual forage availability, terms and conditions, agency guidance and the Best Management Practices included in the new term permit. The establishment of these levels allows for better management of rangeland resources because they are tied to forage availability rather than a set AUM amount. These levels allow for flexibility to accommodate annual range conditions; prevent overgrazing; and safeguard residual forage for wildlife habitat, plant recovery and productivity, and watershed function.

The Proposed Action, therefore, is to retain an Active Use of 2824 AUMs for Garden Spring, 2896 AUMs for White Rock, and 722 AUMs on Summit Spring allotment in accordance with the current term permit; while changing the Season of Use, so that grazing neither occurs during most of the critical growing period for cool season plants nor during a portion of the critical growing period for warm season plants. The season of use for Summit Spring is further reduced (ending on 2/28) to protect desert tortoise during their active season until a fence is constructed separating out the desert tortoise critical habitat.

Shortening the season of use would favor plant growth and seed production in both, warm season and cool season grasses. It would also allow the potential for grazed cool season plants, which may have begun some spring growth, to continue growth which would aid in allowing such plants: to develop above ground biomass to protect soils and provide desirable perennial cover for wildlife; to contribute to litter cover; and to continue to develop root masses which would lend itself to improved carbohydrate storage for vigor and reproduction.

Retaining the Active Use AUMs and allowing for voluntary non-use of a portion those AUMs would also allow the ability to increase grazing use during years of high annual grass production and target weed species when they are most palatable and vulnerable. This would reduce fuel loading, fire frequency, intensity and severity and facilitate burn are recovery.

It is anticipated, and reasonable to expect, that the applicable Standards would continue to be achieved.

#### No Action Alternative

All of the mandatory terms and conditions of the current permit, as displayed under section 2.1.1, would remain unchanged. Because the season of use would not change, it would annually allow grazing during most of the critical spring growing season for cool season plants; and during a portion of the critical growing season for warm season plants. Consequently, the benefits to

plant physiology, as described under 2.1 of the Proposed Action, would be dramatically reduced; thereby, impacting desired forage in a highly negative manner.

Also, under the no action alternative, the terms and conditions and BMPs listed under 2.1.2 in the Proposed Action and in Appendix III of this EA would not be included in the new permit. This would make such management practices difficult to enforce with no recourse regarding the court system.

### No Grazing Alternative

Removal of grazing would allow annual grass to complete its life cycle in formally grazed areas and further dominate the area (Briske 2011). This would reduce native perennial plant growth through the ability of *Bromus spp.* to take advantage of late winter resources before native perennial growth can begin (DeFalco 2007). Late winter and early spring grazing in this region removes the reproductive parts of *Bromus spp.* and because these plants do not produce a seed bank, the population and competitive pressure is reduced (Schmelzer et al 2008). Removal of grazing pressure from *Bromus spp.* would facilitate increased fire severity, intensity, and frequency.

In addition to exacerbating the altered fire regime, removal of grazing would, for a short period of time following implementation, accomplish the same desired result as allowing periodic rest during the spring critical growing period. This would allow perennial forage plants rest during the vital phenological stages of their annual growing cycle. However, according to studies this benefit would be short-lived.

In fact it is realized in the scientific community that, over time, grasses may become woody from lack of grazing use. If this occurs, substantial forage can become wasted, because current year's growth is intermixed with older, cured materials that are nutritionally deficient and present a physical barrier to cattle grazing. Such plants would also lose vigor and become less palatable, thereby contributing to less productive rangelands for either wildlife or domestic livestock that depend on such a forage base.

Anderson (1993) elaborated on the consequences of choosing a No Grazing option. He states: "After a period of time, ungrazed herbaceous fibrous-rooted plant species become decadent or stagnant. Annual above-ground growth is markedly reduced in volume and height. Root systems likely respond the same. The result is reduction in essential features of vegetational cover, including the replacement of soil organic matter and surface residues, and optimum capture of precipitation." He also lists two other consequences: "(1) loss of quality herbaceous forage for wild herbivores, causing them to move to areas where regrowth following livestock grazing provides succulent forage (Anderson 1989), and (2) increased hazard from wildfires that can be devastating from a rangeland watershed standpoint."

Courtois et. al. (2004) found that 65 years of protection from grazing on 16 exclosures, at different locations across Nevada, resulted in relatively few differences between vegetation inside the exclosures and that exposed to moderate grazing outside the exclosures. Where differences occurred, total vegetation cover was greater inside the exclosures while density was

greater outside the exclosures. Protection from grazing failed to prevent expansion of cheatgrass into the exclosures (Ely RMP/FEIS pg. 4.5–27).

### **3.3.2 Wilderness**

#### 3.3.2.1 Affected Environment

Portions of the two allotments were designated as Wilderness in 2004. The remaining portions of the three allotments were determined to not possess Lands of Wilderness Characteristic (LWC) in 1980. An update to the inventory was completed in Spring 2011, portions of which overlap the three allotments: one unit was found to possess LWC which overlaps the Summit Spring Allotment; the remaining did not possess LWC.

#### 3.3.3.2 Environmental Consequences

##### Proposed Action

The Proposed Action and the No Action Alternative would not preclude preservation of Lands with Wilderness Characteristics in the LWC unit, nor elsewhere should LWC be identified in the future. By reducing the season of use, it is expected that naturalness would be slightly improved under the Proposed Action. There are no anticipated impacts to size, solitude or primitive forms of recreation from the proposed action or other grazing alternatives.

##### No Action Alternative

See above

##### No Grazing Alternative

The no grazing alternative could lead to a decline of naturalness if invasive annuals are left unchecked on adjacent lands. Fuel loading would increase down slope from the wilderness areas, which would lead to increased fire frequency, intensity, and severity.

### **3.3.3 Threatened and Endangered Species and Critical Habitat**

#### 3.3.3.1 Affected Environment

The White Rock, Garden Spring, and Summit Spring Allotments contain habitat for the federally threatened desert tortoise (*Gopherus agassizii*). A portion of the Summit Spring Allotment contains designated critical habitat for desert tortoise. Many acres of the Summit Spring Allotment burned in the 2005 Southern Nevada Complex Fire.

### 3.3.3.2 Environmental Consequences

#### Proposed Action

The current version of the Revised Desert Tortoise Recovery Plan (Draft Document dated October 2007), states under Recovery Action 2.16, Manage Livestock Grazing: "Grazing by livestock (cattle and sheep) affects desert tortoises through crushing animals or their burrows, destroying or altering vegetation (which may introduce weeds and change the fire regime), altering soil, and competition for food (Boarman 2002). More flexible grazing practices, such as allowing or reducing grazing during specific times of the year (*e.g.*, after ephemeral forage is gone or winter only) or under certain environmental conditions (*e.g.*, following a specified minimum amount of winter rain) would be most appropriate outside conservation areas, but should be used experimentally to investigate the compatibility of grazing with desert tortoise populations."

A change to the Season of Use for the Summit Spring allotment has been proposed until the critical habitat has been fenced off from the remainder of the allotment. Changing the Season of Use to 11/1 through 2/28 would ensure that livestock grazing only occurs during the least active period for desert tortoise. Moreover, changing Season of Use from 10/1 through 5/31 to 11/1 through 4/30 for Garden Spring and White Rock allotments would also reduce the temporal overlap of desert tortoises and livestock in these two allotments by two months.

In Boarman's *Threats to Desert Tortoise Populations: A Critical Review of the Literature* (2002), he summarizes livestock grazing as a threat to desert tortoise in the following way: "Surprisingly little information is available on the effects of grazing on the Mojave Desert ecosystem (Oldemeyer 1994, Rundel and Gibson 1996, Lovich and Bainbridge 1999). Differences in rainfall patterns, nutrient cycling, and foraging behavior of herbivores and how these three factors interact make applications of research from other areas of limited value in understanding the range ecology of the Mojave Desert. The paucity of information is surprising given the controversy surrounding grazing in the Mojave and the importance of scientific information for making resource management decisions affecting grazing. Studies, mostly from other arid and semi-arid regions tells us that grazing can alter community structure, compact soil, disturb cryptogamic soils, increase fugitive dust and erosion. Some impacts to tortoises or their habitat have been demonstrated, but the evidence is not overwhelming."

#### No Action Alternative

Because the Season of Use would not change, it would annually allow grazing during most of the critical spring growing season for cool season plants; and during a portion of the critical growing season for warm season plants. This could have a negative impact on plants that could otherwise serve as thermal cover or forage species for the desert tortoise. Not changing the Season of Use on the Summit Spring Allotment would be contrary to the Programmatic Biological Opinion and could have negative impacts on desert tortoise.

Also, under the no action alternative, the terms and conditions and BMPs listed under 2.1.2 in the Proposed Action and in Appendix III of this EA would not be included in the new permit.

## No Grazing Alternative

The no grazing alternative, as discussed in 3.3.1.2, would remove any pressure from invasive annual grasses and allow fuel loading to increase. Increased fire frequency and severity is the primary threat to desert tortoise habitat in this area. Recovery of thermal cover in tortoise habitat in burn areas is dependent on maintaining historic fire intervals. Frequent fire intervals of 2-5 years will prevent the recovery of perennial species used as forage and thermal cover by tortoise.

### **3.3.4 Special Status Animal Species**

#### 3.3.4.1 Affected Environment

The following BLM Sensitive Species may occur within the White Rock, Garden Spring, and Summit Spring allotments: desert bighorn sheep (*Ovis canadensis nelsoni*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), loggerhead shrike (*Lanius ludovicianus*), and phainopepla (*Phainopepla nitens*). Loggerhead shrikes typically nest from 3' to 30' from the ground in trees. *Phainopeplas* typically nest from 4 feet to 50 feet from the ground in parasitic mistletoe found in trees. Prairie falcons typically nest in cliffs from 30 feet to 40 feet from the ground. Golden eagles typically nest in cliffs from 10 feet to 100 feet from the ground.

#### 3.3.4.2 Environmental Consequences

##### Proposed Action

The proposed changes to the Season of Use would benefit the BLM sensitive species found in the allotments because it would reduce the temporal overlap of livestock grazing with the sensitive species. The bird species would benefit from a reduced overlap with breeding and nesting activities. Because the sensitive bird species found in these allotments typically nest at a height greater than what livestock can reach (3 feet and above), no impacts to birds are anticipated. According to Nevada Department of Wildlife's (NDOW) Bighorn Sheep Management Plan (2001), it is important that bighorn sheep habitats are maintained in good to excellent ecological condition because livestock directly compete with bighorns for forage, water, and space. The current condition of this habitat is unknown. The proposed action is designed to maintain or move toward good to excellent ecological condition therefore minimizing effects to desert bighorn sheep.

##### No Action Alternative

According to the *Nevada Comprehensive Bird Conservation Plan* (2010), "Domestic livestock (cattle and sheep) are a long-established component of most publicly managed lands in Nevada.... Livestock grazing, however, is not invariably harmful to birds, and it may sometimes be beneficial for achieving particular management objectives." The Plan concludes that "overgrazing" may be a conservation concern when it involves the removal of understory vegetation at sensitive times or leads to permanent changes in vegetation composition and structure.

Because the Season of Use would not change, it would annually allow grazing during most of the critical spring growing season for cool season plants; and during a portion of the critical growing

season for warm season plants. This could lead to increased competition for forage between desert bighorn sheep and livestock in areas where habitat overlaps grazing areas.

Also, under the no action alternative, the terms and conditions and BMPs listed under 2.1.2 in the Proposed Action and in Appendix III of this EA would not be included in the new permit.

#### No Grazing Alternative

The no grazing alternative, as discussed in 3.3.1.2 and 3.3.1.4, would remove any pressure from invasive annual grasses and allow fuel loading to increase. Increased fire frequency and severity removes and prevents the re-establishment of native perennial species. Recovery and survival of perennial habitat components is dependent on maintaining historic disturbance regimes. If invasive annual grasses are allowed to flourish without any competitive pressure, fuel loading will eventually lead to more frequent and more intense fires.

### **4.0 Cumulative Impacts**

According to page 36 of the 1994 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). The CESA for this project is defined as the Tule Desert and Toquop Wash Watersheds. This area was chosen based on natural boundaries, the special scale of activities, and relevant concerns.

Additionally, the guidance provided in The National BLM NEPA Handbook H-1790-1 (USDOI 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). Also, a more detailed analysis of cumulative impacts in the CESA is located on pages 77-84 of the Ely District Record of Decision and Approved Resource Management Plan signed August 20, 2008.

#### **4.1 Past Actions**

Livestock grazing operations in the planning area developed during the mid- to late-1800s. The Ely RMP/EIS summarizes livestock grazing history in the region on pages 3.16–1 to 3.16–3. Range improvements have occurred on all allotments to improve grazing management and include fencing, stockwater developments, and vegetation treatments.

The Ely Proposed RMP/EIS summarizes wild horse history in the west, specifically on the Ely District on pages 3.8–1 to 3.8–7. Wild horse use has occurred throughout the project area since the 1800s.

Historic mining activities associated with the Viola Mining District

Invasive species introduction, including tamarisk and annual grasses, have occurred since European settlement.

Multiple utility corridor rights-of-way have been granted within the CESA (see pages 77-84 of the Ely RMP 2008).

Historic fire return interval has been shortened while fire severity has increased due to invasive species.

Catastrophic fires during 2005 burned an unprecedented 33,962 acres according to Landsat measurements.

Records indicate off-road races have occurred in the area since the 1980s and ended in 2009. Races are no longer permitted in the area.

Recreational OHV use occurred in the areas near Mesquite, Nevada.

Well drilling has occurred as part of the Lincoln County Lands Act (LCLA) Groundwater Project. The wells are currently capped and unused.

Kern River natural gas pipeline was put in to service in February of 1992.

#### **4.3 Current Actions**

UNEV petroleum pipeline is being constructed and near completion within the utility corridor specified in the Ely RMP, which is also used by the Kern River Pipeline.

Recreational OHV use in the CESA including un-permitted OHV events, are on the increase in the area surrounding Mesquite, Nevada.

Blue Nose mining exploration is currently being pursued in the northern area in relation to the allotments analyzed. This action has increased traffic in the area as they access the site from the south through White Rock and Garden Spring Allotment.

Lincoln Count Telephone Company is installing a fiber optic line to service the LCLA Groundwater Project.

#### **4.4 Future Actions**

Transwest Express transmission line construction is expected to proceed within the next 6 years.

Installation of water pipeline for LCLA Groundwater Project is expected to take place within the next 10 years.

LCLA Groundwater Pumping begins for municipal and/or industrial use after completion of related pipeline and infrastructure.

Fencing of desert tortoise critical habitat in the southern end of the Summit Spring allotment should occur within the next two years.

The disposal of 641 acres of land located approximately three miles south of the Summit Spring allotment as described in the Ely RMP and related to the Toquop power project.

Toquop power generation project may still proceed as a natural gas fired plant.

## **4.6 Cumulative Effects Summary**

### **4.6.1 Rangeland Health**

#### **Proposed Action**

The proposed action in conjunction with the past, present and reasonable foreseeable future actions would result in no noticeable overall changes to the affected environment. Grazing under the proposed permit renewal would aid in maintaining achievement of the Standards for Rangeland Health, with the understanding that adjustments to grazing management would occur when any of the Standards are not being achieved. Appropriate action would be taken as soon as practicable but not later than the start of the next grazing year upon determining that existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards and conform with the guidelines (43 CFR §4180.2 (c)).

No cumulative impacts of concern are anticipated as a result of the proposed action in combination with any other existing or planned activity.

Other livestock grazing permits in the CESA also affect the overall rangeland health of the area. All grazing permits are designed to allow for progress towards or achievement of land health standards. If existing livestock grazing management practices are found to be significant factors in failing to achieve the standards for rangeland health, appropriate action is taken as soon as practicable or no later than start of the next grazing season (43 CFR 4180.2(c)). Where the SDDs for the allotments within the CESA found that rangeland health standards were not being met due to cattle grazing, changes have been made to the related grazing permit.

#### **No Grazing Alternative**

The no grazing alternative in combination with interrelated projects, would not have a cumulative effect on rangeland health outside of what was analyzed under the no grazing alternative in section 3.3.5.2.

### No Action Alternative

This resource would have the same cumulative effect as the proposed action with respect to cumulative impacts.

### **4.6.2 Special Status Animal Species Habitats**

#### Proposed Action

The proposed action, in combination with interrelated projects, will have the same effect as discussed in Environmental Consequences section 3.3.1.2.

#### No Grazing Alternative

The no grazing alternative, in combination with interrelated projects, will have the same effect as discussed in Environmental Consequences section 3.3.1.2.

#### No Action Alternative

The no action alternative, in combination with interrelated projects, will have the same effect as discussed in Environmental Consequences section 3.3.1.2.

### **4.6.3 Noxious and Invasive Weed Spread**

Transportation activities, including existing road maintenance, grazing, recreation, energy and water development, and wildland fire operations within the CESA can contribute to the chance of spreading noxious and non-native, invasive weeds. Past activities have facilitated the spread of non-native, invasive species, especially along transportation routes and drainages.

Establishment of non-native, invasive species has occurred and would likely continue under the proposed action and other interrelated projects. The spread of non-native invasive species would be minimized through the measures listed in the Risk Assessment for Noxious and Invasive Weeds for this project and for other interrelated projects. In addition, the active BLM Ely District Weed Management Program would minimize the spread of weeds throughout the CESA.

## **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 identified during consultation with the U.S. Fish and Wildlife Service and is 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**

Cameron Boyce	Rangeland Management Specialist/Project Lead
Chris Mayer	Supervisory Rangeland Management Specialist
Alicia Styles	Wildlife, Special Status Species, Migratory Birds
Mark D'Aversa	Soil, Water, Wetlands and Riparian, Floodplains
Cameron Boyce	Noxious and Invasive, Non-native Species
Sheri Wysong	Planning and Environmental Coordinator
Nicholas Pay	Cultural Resources
Elvis Wall	Native American Cultural Concerns
Melanie Peterson	Hazardous and Solid Waste/Safety
Lisa Domina	Recreation, Visual Resources

### **6.2 Persons, Groups or Agencies Consulted**

This Final EA will be sent to the Interested Publics included on the annual Range Actions Interested Public Mailing List for 2011.

#### Public Notice of Availability

On January 6, 2010, a letter was sent to local Native American tribes requesting comments, regarding the permit renewal process for Authorization #2705036, by February 8, 2010.

On February 3, 2010, the Nevada Department of Wildlife was sent a copy of the proposed action via ftp. No comments were received.

On December 22, 2009, the Ely BLM annual CCC letter was mailed which notified interested publics of the livestock grazing term permit renewals scheduled for 2010. The letter included Authorization #2705036 on the Garden Spring, White Rock, and Summit Spring Allotments.

On February 14, 2010 a meeting with the permittee, for Authorization #2705036, was held to discuss the proposed action.

On April 14, 2010, the proposal to fully process the term permit, for Authorization 2705036, was posted on the Ely BLM internet site ([http://www.blm.gov/nv/st/en/fo/ely\\_field\\_office.html](http://www.blm.gov/nv/st/en/fo/ely_field_office.html)).

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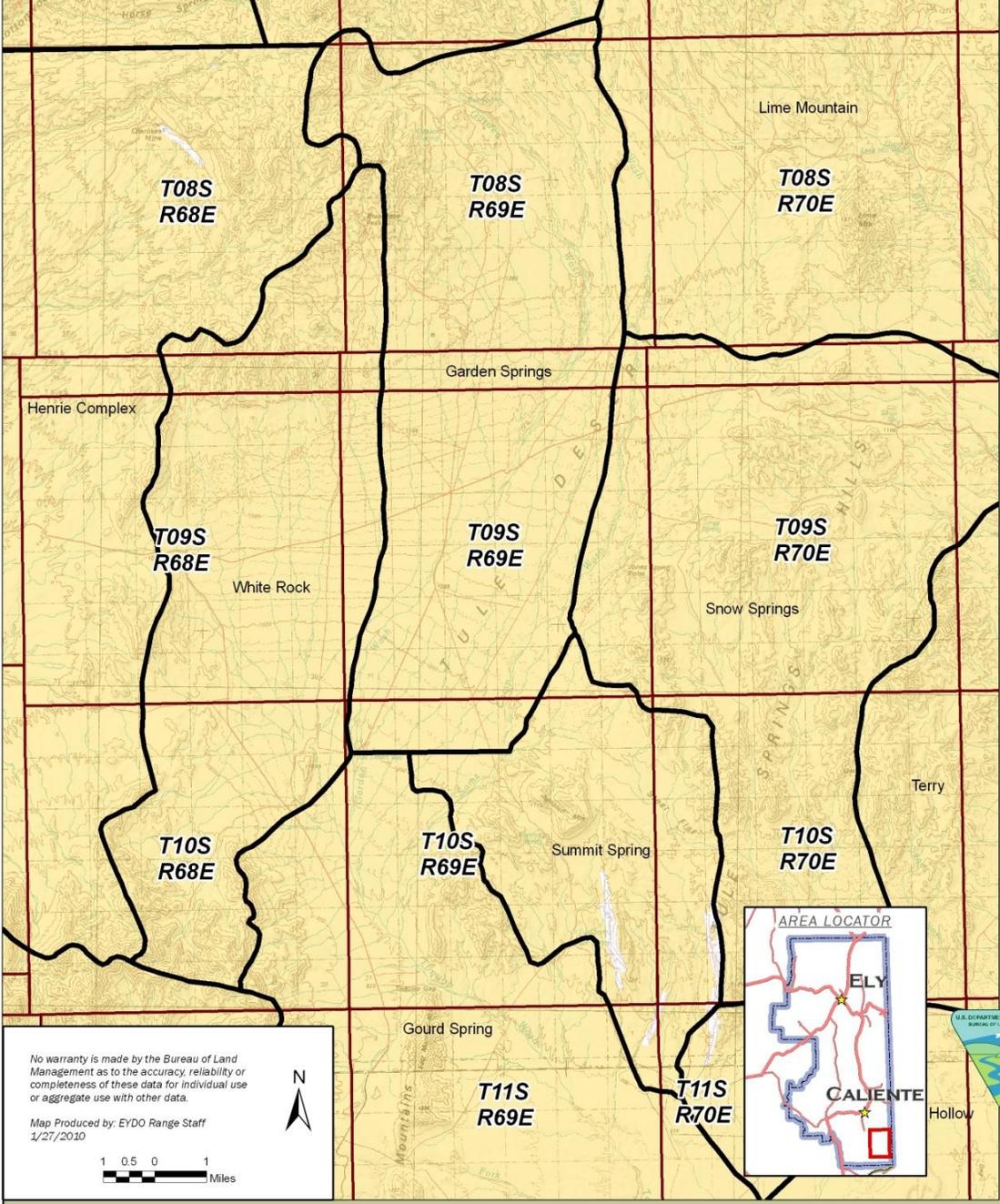
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# **APPENDIX I**

MAP(S)

# GARDEN SPRINGS (01065), WHITE ROCK (01078) AND SUMMIT SPRING (01077) ALLOTMENTS

**BLM**



**Ely District Office**

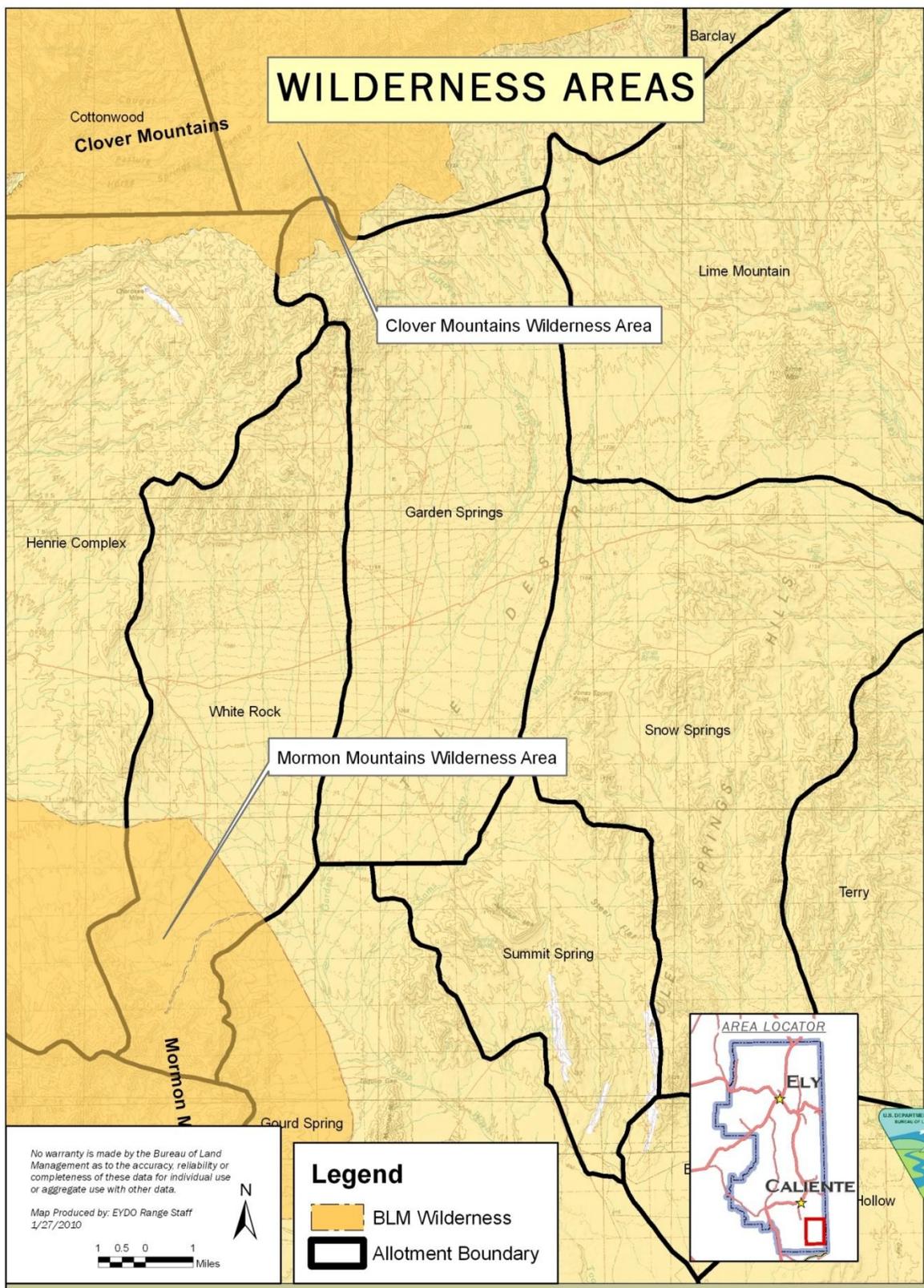
No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual use or aggregate use with other data.  
 Map Produced by: EYDO Range Staff  
 1/27/2010

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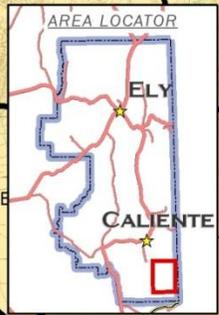


# WILDERNESS AREAS



Clover Mountains Wilderness Area

Mormon Mountains Wilderness Area



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: EYDO Range Staff  
1/27/2010

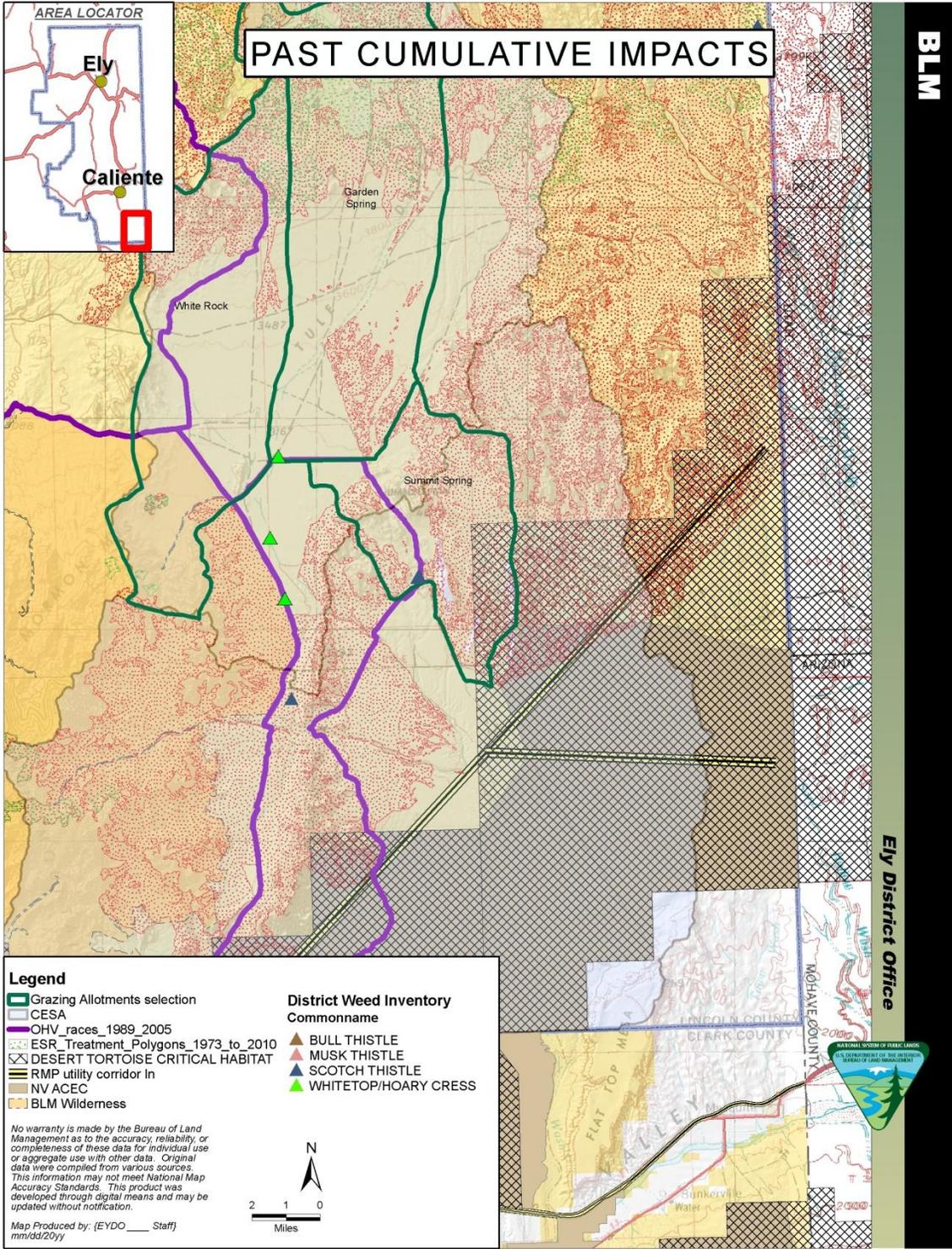
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**Legend**

- BLM Wilderness
- Allotment Boundary



Ely District Office





**APPENDIX II**  
(EA)  
**STANDARDS DETERMINATION DOCUMENT**

**Garden Spring (#01065), White Rock (#01078) and Summit Spring (#01077) Allotments**

**Standards and Guidelines Assessment**

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The Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area were developed by the Mojave-Southern Great Basin Area Resource Advisory Council (RAC) and approved in 2006. 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 Garden Spring, Summit Spring and White Rock allotments 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 allotment by a BLM interdisciplinary team. Documents and publications used in the assessment process include the Soil Survey of Lincoln County Nevada - South 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) and Monitoring Manual for Grassland, Shrubland and Savannah Ecosystems (BLM et al. 2009). A complete list of references is included at the end of this document. The interdisciplinary team used rangeland monitoring data, professional observations, and photographs to assess achievement of the Standards and conformance with the Guidelines.

**Allotment Background Information**

The **Garden Spring** allotment is approximately 38,823 public land acres in Lincoln County, and is approximately 35 miles south of Caliente, Nevada (Appendix II). This allotment is located within Desert Tortoise habitat and the Clover Mountain Wilderness Area occurs in a small portion (924 acres) of the northwest corner of the allotment.

The **White Rock** allotment is approximately 32,916 public land acres in Lincoln County, and is approximately 35 miles south of Caliente, NV (Appendix II). This allotment is located within Desert Tortoise habitat. The southwestern corner of the allotment has 7,836 acres within the Mormon Peak Wilderness Area.

The **Summit Spring** allotment is approximately 18,035 public land acres in Lincoln County, and is approximately 35 miles south of Caliente, Nevada (Appendix II). This allotment is located within Desert Tortoise habitat, with the southeastern portion of the allotment occurring in

designated Desert Tortoise Critical Habitat. No wilderness occurs within the Summit Spring allotment. The nearest wilderness area is the Mormon Mountain Wilderness Area, which is approximately two miles away.

The current term permit for **Newby Cattle Co. (#2705036)** is issued under the appropriations act for the period of 1/21/2010 to 2/28/2012. An overview of the current permitted use is shown below in Table 1.

<b>Table 1. Permitted Grazing Use, Newby Cattle Co. (#2705036)</b>							
<b>Allotment</b>	<b>Acres</b>	<b>Livestock</b>	<b># of Head*</b>	<b>Turn-Out</b>	<b>Removal</b>	<b>percent PL**</b>	<b>AUM's</b>
Garden Spring	39,225	Cattle	348	1-Oct	31-May	100	2792
Garden Spring	39,225	Horse	4	1-Oct	31-May	100	32
White Rock	32,984	Cattle	361	1-Oct	31-May	100	2896
Summit Spring	17,603	Cattle	90	1-Oct	31-May	100	722
* these numbers are approximate							
** percent public land, for billing purposes only							

Actual grazing use has been well below permitted use in recent years. An overview of the last ten years of actual use is shown below in Table 2.

<b>Table 2. Ten-Year Actual Grazing Use Summary (Animal Unit Months), Newby Cattle Co. (#2705036)</b>						
<b>Grazing Year</b>	<b>Garden Spring</b>		<b>White Rock</b>		<b>Summit Spring</b>	
	<b>Billed AUM's</b>	<b>percent Use</b>	<b>Billed AUM's</b>	<b>percent Use</b>	<b>Billed AUM's</b>	<b>percent Use</b>
2009-10						
2008-09	1121	40 percent	1340	46 percent	0	0 percent
2007-08	1617	57 percent	0	0 percent	656	91 percent
2006-07	0	0 percent	1229	42 percent	0	0 percent
2005-06	205	7 percent	798	28 percent	0	0 percent
2004-05	2076	74 percent	0	0 percent	556	77 percent
2003-04	723	26 percent	938	32 percent	330	46 percent
2002-03	1048	37 percent	0	0 percent	0	0 percent
2001-02	1326	47 percent	876	30 percent	557	77 percent
2000-01	2778	98 percent	508	18 percent	568	79 percent

<b>Authorized AUM's</b>	2824	2896	722
<b>10-Year Average percent Use</b>	43 percent	22 percent	41 percent
<b>10-Year Average percent Non-Use</b>	57 percent	78 percent	59 percent

## Fire History

In 2005, the Southern Nevada Complex wildfires burned much of the Tule Desert. These fires were mapped by traditional means with on the ground GPS measurements and using Landsat images. These two methods result in considerable differences because Landsat images are able to differentiate unburned islands within the fire's perimeter, where as traditional on the ground GPS measurements typically include unburned islands. Garden springs was partially burned by the The Duzak Fire (part of the Southern Nevada Complex) with approximately 23,927 (15,738 Landsat) acres burned in 2005. The White Rock allotment was partially burned by the 2005 Duzak fire with 9,841 (7,731 Landsat) acres burned, the 2005 Halfway fire with 434 acres (Landsat) acres burned, and the 2006 Sasquatch fire with 131 (Landsat) acres burned. The Summit Spring allotment was partially burned by the Duzak fire with 8,966 (Landsat) acres burned and the Halfway fire with 1,103 (Landsat) acres burned (see appendix II for map). These acreages represent approximately 40 percent, 25 percent and 51 percent of the Garden Spring, White Rock and Summit Spring allotments, respectively (See Appendix II for maps).

The burned areas were closed to grazing for two years and temporary fencing and seeding was used for rehabilitation. During February 2005, 27,441 acres of the Duzak fire and 1,053 acres of the Halfway fire were aerielly seeded. The remaining acreage was left to natural re-vegetation. Species seeded were Indian ricegrass (*Achnatherum hymenoides*), flax (*Linum spp.*), small burnet (*Sanguisorba minor*), forage kochia (*Bassia Prostrata*), bottlebrush squirreltail (*Elymus elymoides*), fourwing saltbush (*Atriplex canescens*), spiny hopsage (*Grayia spinosa*), sand dropseed (*Sporobolus cryptandrus*), Sandberg's bluegrass (*Poa secunda*), James's galletta (*Hilaria jamesii*), Palmer's penstemon (*Penstemon palmeri*), crested wheatgrass (*Agropyron cristatum*), Siberian wheatgrass (*Agropyron fragile*), snakeriver wheatgrass (*Elymus wawawaiensis*) and needleandthread (*Hesperostipa comata*).

## Vegetation Communities

The **Garden Spring and White Rock** allotments are in a transition zone from Great Basin Desert to Mojave Desert vegetation. The **northern reaches** consist of Great Basin Pinyon-Juniper (*Pinus monophylla* - *Juniperus osteosperma*) Woodland, Intermountain Basin Big Sagebrush (*Artemisia tridentata*) Shrubland, Great Basin Xeric Mixed Sagebrush (*Artemisia spp.*) Shrubland, Mogollon Chaparral, and Intermountain Basins Semi-Desert Grassland. Typical vegetation consists of pinyon pine, juniper, several sagebrush species (*Artemisia spp.*), yerba santa (*Eriodictyon augustifolium*), desert bitterbrush (*Purshia glandulosaa*), purple 3-awn (*Aristida purpurea*), galletta (*Hilaria spp.*), and several native forbs.

The central and southern portions of the Garden Spring and White Rock allotments, as well as the Summit Spring allotment transition to Mojave Desert vegetation. The majority of these

allotments are Mojave Mid-Elevation Mixed Desert Scrub and Sonora-Mojave Creosotebush-White Bursage Desert Scrub. Small areas of Intermountain Basins Semi-Desert Shrub Steppe, North American Warm Desert Wash and North American Warm Desert Bedrock Cliff and Bedrock occur in these allotments. Typical vegetation includes blackbrush (*Coleogyne ramosissima*) desert bitterbrush, white bursage (*Ambrosia dumosa*), rabbitbrush (*Chrysothamnus spp.*), range ratany (*Krameria erecta*), desert almond (*Prunus fasciculata*), desert rue (*Thammosa montana*), Nevada ephedra (*Ephedra nevadensis*), fourwing saltbush (*Atriplex Canescens*). The extreme southern portions transition to Joshua tree (*Yucca brevifolia*), creosote (*Larrea tridentate*), big galletta (*Hilaria rigida*), and several species of succulents (yucca and cactus).

Important forage species are big galletta, globemallow (*Sphaeralcea spp.*), redstem filaree (*Erodium cicutarium*), cheatgrass (*Bromus tectorum*), red brome (*Bromus rubens*) and Nevada ephedra (*Nevada ephedra*). Purple threeawn (*Aristida purpurea*), sand dropseed (*Sporobolus cryptandrus*), bush muhly (*Muhlenbergia porteri*) and Indian ricegrass (*Achnatherum hymenoides*) are present in isolated areas and also provide forage and cover.

Biological crusts were observed to be present in 8 out of 25 of the study areas within these three allotments.

The burned areas in the central and northern portions of Garden Spring and White Rock allotments are recovering and have exhibited healthy re-growth of Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), yerba santa, desert bitterbrush (*Pursia glandulosa*), Joshua tree and the perennial grasses purple threeawn and bottlebrush squirreltail. This portion of these allotments are higher elevation and more mesic than the southern portions, thus enabling higher rates of successful recovery following disturbance. The burned areas in the lower elevations (ie. southern parts of Garden Spring and White Rock, and all of Summit Spring) have shown moderate to poor recovery. Annual grasses such as cheatgrass and red brome, and forbs like redstem filaree dominate the landscape post-fire in these low-elevation, low-rainfall regions.

## **Water Sources**

The Tule desert has several year-round water sources of varying types that are fairly uniformly distributed throughout the grazing allotments. Natural springs, developed springs, water hauls, and extensive pipelines and associated tanks provide for the ability to evenly distribute grazing and create a rotation system based on water availability. See Appendix II for map of water locations.

## **Key Areas**

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 range improvement and water locations map in Appendix II depicts key areas and their locations within the Garden Spring, White Rock and Summit Spring allotments.

Supplemental study sites were also selected to obtain data in major soil types within these allotments. These sites are not key areas but were chosen in effort to assess rangeland health in the entire allotment, not just key forage or use areas. The key areas and transects map in Appendix II depicts the locations of these supplemental study sites.

Table 1-3 in Appendix I lists the ecological site associated with the key areas and supplemental study sites. Tables 5-7 in Appendix I lists the expected and actual vegetation composition associated with each study site and ecological site.

### **Monitoring Methods**

Summaries of monitoring methods and data for Garden Spring, White Rock and Summit Spring allotments are located in Appendix I of this document.

## **PART 1. STANDARD CONFORMANCE REVIEW**

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### **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 crusts, pavement)
- Compaction/infiltration

Riparian soil indicators:

- Stream bank stability

All of the above indicators are appropriate to the potential of the ecological site.

<b>Standard 1. Soils</b>	
<b>Garden Spring Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
	Livestock are not a causal factor to not achieving the standard
	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines
<b>White Rock Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
	Livestock are not a causal factor to not achieving the standard
	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines
<b>Summit Spring Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
x	Livestock are not a causal factor to not achieving the standard
x	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines

Garden Spring Discussion

Achieving the soils standard

Grazing is in conformance with the Guidelines

Perennial plant cover is within the NRCS-ESD vegetative cover estimates in most of the **unburned areas** (Table 5 in Appendix I). Key Areas 4 and 5, and Transects A, C, E and F are meeting vegetative cover values based on the ESD. Along with adequate perennial vegetation cover in these areas, there is also high rock and litter cover to provide soil stability. It should be noted that soils appear to be stable in the allotment as no signs of soil loss or soil movement was observed. The gentle slopes of the allotment help reduce or prevent soil loss caused by overland water flow. Biological crust is also present in this allotment which is an indicator of soil and ecosystem health and minimal disturbance (photo 3 below). Biological crusts were found at Key Area 4 and Transect F.



Photo 1. Heavy rock, redstem filaree and big galletta cover at Key Area 5 in the Garden Spring allotment; unburned.



Photo 2. Heavy rock and plant cover at Transect C in the Garden Spring allotment; unburned.



Photo 3. Biological crust and rock cover at Transect F in the Garden Spring allotment.

In the **burned areas**, soils are stable but vegetative cover is lacking. It is not meeting the standard in most burned areas, but the burned area constitutes 40 percent of the Garden Spring allotment. In burned areas (Transects A, B, G and H), the vegetative cover measurements and the present plant communities are not reflective of the ESD and are therefore highly departed from the appropriate plant communities. For Transects A and B (photos 4 and 5 below) that burned in 1999, recovery is evident by the cover measurements being only slightly under the expected cover from the ESD. The plant communities that replaced the burned late-seral blackbrush communities are completely different but still provide ground cover, biotic diversity and structure. This indicates that these study sites are making significant progress toward meeting the standard.



Photo 4. Ground cover by rock and blackbrush seedlings at Transect B in the Garden Spring allotment; burned in 1999.



Photo 5. Ground cover by rock and perennial grasses at Transect A in the Garden Spring allotment; burned in 1999 and 2005.

At Transects G and H (photos 6 and 7 below) which burned in 2005, the previous plant community was blackbrush and desert needlegrass. Recent drought has slowed recovery but the current plant community is different yet diverse and provides excellent cover, structure and forage. This indicates that these study sites are making significant progress toward meeting the standard. Vegetation and rock cover is adequate in the wash to prevent erosion.



Photo 6. Ground cover by rock and re-sprouting vegetation at Transect G in the Garden Spring allotment; burned in 2005.



Photo 7. Vegetative cover in a wash at Transect H in the Garden Spring allotment. Also note heavy rock cover; burned in 2005.

Utilization is slight to moderate at key forage plant use areas, indicating that the grazing system is meeting proper utilization objectives. This also indicates that the 10-year average actual use levels are appropriate for the current conditions and are supporting vegetation production at levels that are sustainable to grazing. These analyses and monitoring results are reflective of the AUM's that are actually used, which has only averaged approximately 43 percent of permitted

AUM's in the last 10 years. Based on these conclusions, livestock are not the causal factor for lower than expected vegetative cover values. Live vegetation plus litter and rock cover are adequate to protect soil values and resist erosion.

White Rock Discussion

Achieving the soils standard

Grazing is in conformance with the Guidelines

Perennial plant cover is within the NRCS-ESD vegetative cover estimates in most of the **unburned** areas. Key Areas 4, 5, 6, and 7 and Transect E are meeting vegetative cover values based on the ESD. Perennial grass cover is consistently low when comparing study areas to expected perennial grass cover. Key Areas 4, 5, 6 and 7 are stable late-seral blackbrush or blackbrush/creosote communities that typically have very little understory and interspace vegetation. Transect E is similar to Transect D (photos 8 and 9 below), a highly productive big galletta/creosote community. Transect D has the appropriate vegetative components but lower than expected productivity.

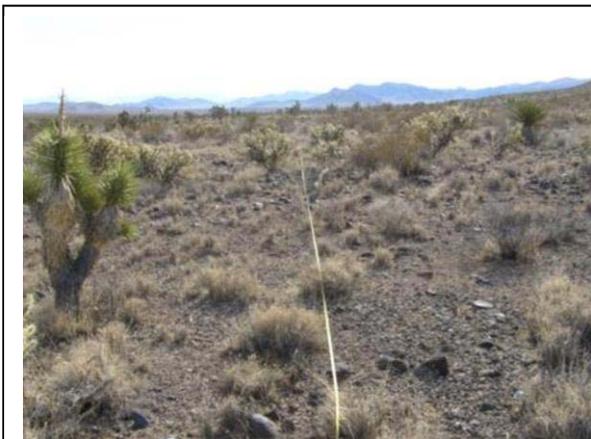


Photo 8. Transect E, big galletta community. Also note heavy rock cover.



Photo 9. Transect D, big galletta community. Also note heavy rock cover.

Key Areas 1 and 3 (photos 10 and 11 below) seem to be highly departed from ESD due to lack of perennial grasses in the plant community. Galletta is present in small amounts while annual brome and redstem filaree have become the most abundant species at these sites.



Photo 10. Key Area 1 is departed from ESD due to lack of perennial grasses, note heavy rock and redstem filaree cover.



Photo 11. Key Area 3 is departed from ESD due to low perennial grass productivity, note big galletta community on the right and heavy redstem filaree cover.

The vegetation at Transect C (photo 12 right) does not seem to match the vegetation in the ESD, whereas the expected vegetation is galletta, Indian ricegrass and fourwing saltbush and the actual present vegetation is typical of Mojave mixed woody scrub with a subdominant blackbrush component.



Photo 12. Transect C, scrub blackbrush community.



Photo 13. Transect A shows poor recovery but note heavy rock and litter cover; burned in 2005.

In **burned areas** at Transects A and B (photos 13 and 14), the vegetative cover measurements and the present plant communities are not reflective of the ESD and are therefore highly departed from the appropriate plant communities. This allotment is not meeting ESD expected vegetative cover values in the burned areas, but the burned area only constitutes 25 percent of the White Rock allotment. Previously these sites were late-seral blackbrush communities. Transect A has shown very little recovery and does not seem to be making progress toward meeting the standard. Annual redstem filaree is the most abundant vegetation with a vigorous globemallow presence and purple threeawn which is ungrazed and thriving. Transect B now supports a diverse community of perennial grasses along with globemallow and re-sprouting creosote. Recent drought has slowed recovery at both of these sites. The current plant community at Transect B is different from the ESD yet it is diverse and provides cover, structure and forage. This indicates that this study site is making significant progress toward meeting the standard.



Photo 14. Transect B supports a diverse perennial grass community. Also note heavy rock cover; burned in 2005.



Photo 15. Biological crust at Key Area 6. Also note heavy rock cover; unburned.

Along with perennial vegetation cover, there is also high rock and litter cover to provide soil stability. It should be noted that soils appear to be stable in the allotment as no outward signs of soil loss or soil movement was observed during monitoring. The gentle slopes of the allotment help reduce or even prevent soil loss due to overland flow. Biological crust is also present in this allotment which is an indicator of soil and ecosystem health and minimal disturbance (photo 15). Biological crust was found at Key Areas 3, 5 and 6 and Transect C.

Utilization is slight to moderate at key forage plant use areas, indicating that the grazing system is meeting proper utilization objectives. This indicates that the 10-year average actual use levels are appropriate for the current conditions and are supporting vegetation production at levels that are sustainable to grazing. These analyses and monitoring results are reflective of the AUM's that are actually used, which has only averaged approximately 22 percent of permitted AUM's in the last 10 years. Based on these conclusions, livestock are not the causal factor for lower than expected vegetative cover values. Live vegetation, litter and rock cover are adequate to protect soil values and resist erosion.

#### Summit Spring Discussion

Not achieving the Standard but making significant progress toward achieving it. Livestock are not the causal factor; failure to meet the standard is due to fire, invasive annual vegetation and alteration of the historic fire regime from the Ecological Site Description for that soil type.

Grazing is in conformance with the Guidelines

Perennial plant cover is within the NRCS-ESD vegetative cover estimates in all of the **unburned areas**. Key Areas 3, 4 and 5 are all meeting the Rangeland Health Standard for soils. Cover is adequate and vegetation is appropriate for these unburned sites. The unburned area covers approximately 49 percent of this allotment, with the rest being burned in 2005. Along with perennial vegetation cover, there is also high rock and litter cover to provide soil stability. It should be noted that soils appear to be stable in the allotment as no conspicuous signs of soil loss or soil movement was observed during monitoring. The gentle slopes of the allotment help reduce or even prevent soil loss as a result of overland water flow. Biological crust is also present in this allotment indicating soil and ecosystem function with minimal disturbance. Biological crust was very abundant at Key Areas 3 and 4. Key Areas 3 and 4 are in

blackbrush/Nevada ephedra community, which offers excellent grazing potential but has been essentially ungrazed. Additionally, they are surrounded by very productive big galletta communities that have been essentially ungrazed. Annual invasion is minimal and soils are rocky and stable. Key Area 5 harbors a diverse collection of perennial vegetation and also receives very little grazing.

The areas that are not meeting the soil standard are a result of the alteration of the historic fire regime due to invasive annuals and the 2005 fires. The burned area covers 51 percent of the allotment and is showing little to no perennial vegetation recovery. The soil is rocky and stable; however the burned portion is dominated by annuals and lacking perennials. Summit Spring allotment is water-limited; the only permanent water sources are in the north-east corner and eastern edge of the allotment. The **burned area** was not considered a key grazing use area due to water limitations and lack of forage. Cattle do not utilize the majority of this allotment; this was true before it burned in 2005. Key areas were not established in forage and water limited areas because they would have not served any management purpose. This factor is also reflected by the depressed use levels of the producer on this allotment.

Livestock grazing is not a contributing factor to not achieving the Standard. The primary reasons for not achieving the standard are the Duzak and the Halfway fires that occurred during the summer of 2005. The portion of the allotment that did not burn has excellent diversity of native species. The annual grasses that are present within the unburned should be kept at a minimum using targeted grazing. Targeted grazing would focus the season of use and livestock numbers on reducing invasive annual plants and fine fuels that would support future fires; the prevention of future fires is key in preserving and enhancing ecological processes in the area.

Utilization is none to slight at key forage plant use areas, indicating that the grazing system is meeting proper utilization objectives. This also indicates that the 10-year average actual use levels are appropriate for the current conditions and are supporting vegetation production at levels that are sustainable to grazing. These analyses and monitoring results are reflective of the AUM's that are actually used, which has been very limited since the fires in 2005 and has averaged 41 percent of permitted AUM's for the last 10 years. Based on these conclusions, livestock are not the causal factor for not meeting the standard. Live vegetation, litter and rock cover are adequate to protect soil values and resist erosion in the unburned areas. Conversely, the large contiguous tract of burned area has shown very limited vegetative recovery, though it still has adequate rock and litter cover to stabilize soils.

## **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 the 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 accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics
  - Width/Depth ratio
  - Channel roughness
  - Sinuosity of stream channel
  - Bank stability
  - Vegetative cover (amount, spacing, life form)
  - Other cover (large woody debris, rock)
- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics

### 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.

<b>Standard 2. Ecosystem Components</b>	
<b>Garden Spring Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
	Livestock are not a causal factor to not achieving the standard
	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines
<b>White Rock Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
	Livestock are not a causal factor to not achieving the standard
	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines
<b>Summit Spring Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
	Livestock are not a causal factor to not achieving the standard
	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines

Garden Spring Discussion

*Achieving the Ecosystem Components Standard.  
Grazing is in conformance with the guidelines.*

Garden Spring—Proper Functioning Condition (lentic)

Garden Spring is described as a Great Basin foothill and lower montane riparian woodland and shrubland by the U.S. Geologic Service’s Southwest ReGAP Project. This spring lies in the transition zone between the Great Basin and Mojave Desert and could also be described as a Mogollon chaparral habitat. The potential for the site was listed as a grass dominated wet meadow, however past disturbance had impacted the area. The area was analyzed using the lentic checklist, but did have some lotic characteristics. One criterion that was not in accordance with PFC is natural flow patterns which were altered by runoff events and a road through the area. Trend is upward See Appendix I for PFC Lentic Checklist.



Photo 16. Garden Spring



Photo 17. Garden Spring

### Box Spring –Functional-At Risk

Box Spring is located in a similar bio-physical setting as Garden Spring, which is approximately 1 mile away. This riparian area was described by the ID team as a “disconnected riparian system in a rocky/sandy wash with some sub-surface reaches” and as a “flashy system.” This spring was rated and functional-at risk primarily due to hydrologic factors, specifically the floodplain is not inundated by frequent events and sinuosity, width/depth ratio, sedimentation, and gradient are not in balance with the landscape setting. This is a likely result of a combination or being located in an area that receives high volume run-off events, sandy unstructured soils with high percolation rates, and limited water flows. This causes disturbance and channel alteration during snow melt and other high runoff events which maintain colonizer dominance in the area. Some wildlife, cattle, and horse use was noted, but not excessive. The riparian are is fenced, but the gate had been left open for some time. See Appendix I for PFC Lotic Checklist.



Photo 18. Box Spring

### Unnamed Spring –PFC not evaluated

The unnamed spring is located in bedrock in a similar bio-physical setting as Garden and Box Springs. The water source is stable and undisturbed. Because the area is surrounded by bedrock, it supports very little riparian vegetation and shows very little sign of animal use. Cottonwoods and willows are abundant in the wash downstream and there are no signs of erosion due to being situated in bedrock. PFC was not completed on this spring.

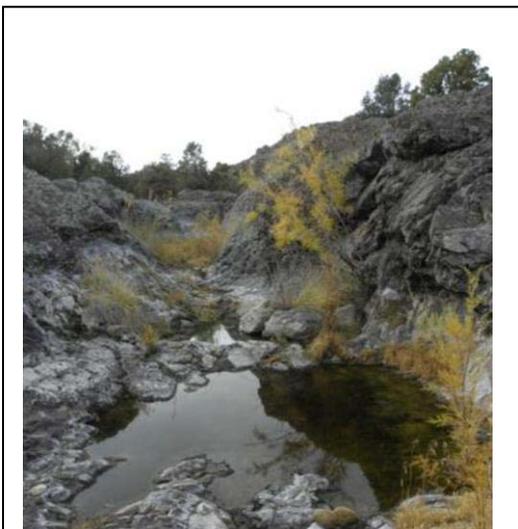


Photo 19. Unnamed spring

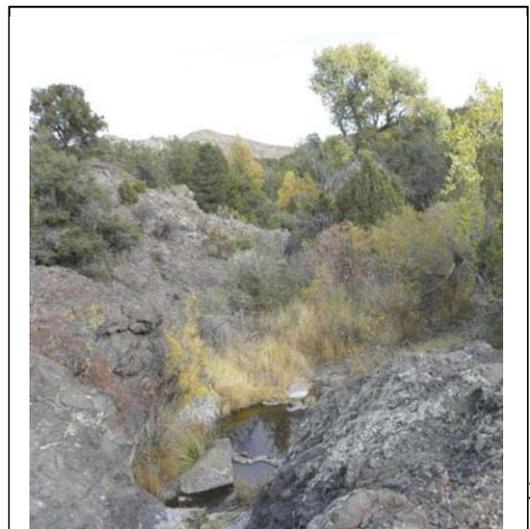


Photo 20. Unnamed spring

White Rock Discussion

*Achieving the Ecosystem Components Standard.*

*Grazing is in conformance with the guidelines.*

There are no natural water sources in this allotment.

Summit Spring Discussion

*Achieving the Ecosystem Components Standard.*

*Grazing is in conformance with the guidelines.*

The springs in the Summit Spring allotment have been dredged and altered to service livestock watering and are not considering riparian systems. They support very little to no riparian vegetation and are shrub-grass vegetation communities. These springs are located in the unburned portions of the allotment. The burned portion of the allotment is not in the immediate watershed of these small springs.

PFC was completed by an interdisciplinary team on these springs but it was determined that the PFC riparian monitoring system was inappropriate for these systems as they had limited riparian values.

**Standard 3. Habitat and Biota**

*Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.*

Habitat Indicators:

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

Wildlife Indicators:

- Escape terrain
- Relative abundance
- Composition
- Distribution
- Nutritional value
- Edge-patch snags

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

<b>Standard 3. Habitat and Biota</b>	
<b>Garden Spring Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
	Livestock are not a causal factor to not achieving the standard
	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines
<b>White Rock Allotment</b>	
<b>Determination:</b>	
x	Achieving the Standard
	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
	Livestock are not a causal factor to not achieving the standard
	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines
<b>Summit Spring Allotment</b>	
<b>Determination:</b>	
	Achieving the Standard
x	Not Achieving the Standard, but making significant progress towards
	Not Achieving the Standard, and not making significant progress toward standard
<b>Causal Factors:</b>	
	Livestock are a causal factor to not achieving the standard
x	Livestock are not a causal factor to not achieving the standard
x	Failure to meet the standard is related to other issues or conditions
<b>Guidelines Conformance:</b>	
x	In conformance with the guidelines
	Not in conformance with the guidelines

Garden Spring Discussion

Achieving the Habitat and Biota standard

In conformance with the guidelines



Photo 21. Late seral blackbrush community at Transect F in the Garden Spring allotment;

Vegetative cover and structure on the Garden Spring allotment is consistent with ecological site descriptions in the unburned areas, and the burned areas have shown excellent recovery. Please see line-intercept and line-point intercept data in Tables 7 and 8 in Appendix I. The plant species present in the unburned areas offer structure that is conducive to desert tortoise habitat needs (see photos 21, 22 and 23 below). These unburned areas comprised of blackbrush and creosote communities that are typical of Mojave Desert vegetation and are suitable habitat for desert tortoise.

Burned areas are recovering and are offering diverse, early succession plant communities that contain a greater density of species that are also present in blackbrush/creosote communities. Photo 24 shows a Mojave mid-elevation mixed desert shrub community that burned in 1999 and in 2005, which is now dominated by purple three-awn and yerba santa.

This matrix of burned and unburned range provides landscape scale diversity and mosaics of varying plant species, structure and ages. The burned and unburned range offers nutritious



Photo 22. Transect C in the Garden Spring allotment; unburned blackbrush/creosote community.



Photo 23. Key Area 4 in the Garden Spring allotment; unburned blackbrush/creosote community.

and palatable forage species for cattle grazing and for desert tortoise consumption. Annual redstem filaree is a low-growing forb that provides consistent high-quality forage for cattle and tortoises alike (Photo 25). Annual brome grazed in the spring provides high-quality forage that helps supplement and reduce grazing pressure on native perennial vegetation such as big galletta, Indian ricegrass and Nevada ephedra. Desert globemallow is also found to be very prevalent, especially on burned areas and is shown to be valuable forage that has moderate regrowth potential and will green-up twice in one season.

Utilization is slight to moderate at key forage plant use areas, indicating that the grazing system is meeting proper utilization objectives. This also indicates that the 10-year average actual use levels are appropriate for the current conditions and are supporting vegetation production at levels that are sustainable to grazing. The level of use recommended in the Ely RMP (2008) in the USFWS Desert Tortoise Biological Opinion (Appendix D page 25) sets maximum allowable use levels for plant functional groups. Maximum utilization will be 40 percent of annual growth of grasses, forbs and shrubs from March 1 to October 31. Maximum utilization will be 50 percent of current year's growth on perennial grasses and 45 percent of current year's growth on shrubs and forbs from November 1 to February 28. The current utilization levels are compliant with USFWS recommendations for sustainable grazing in desert tortoise habitat.

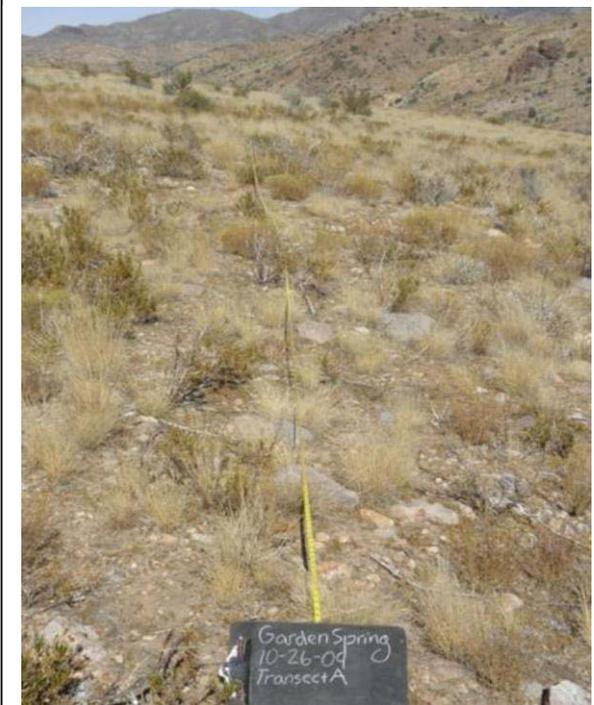


Photo 24. Transect A—Garden Spring allotment.

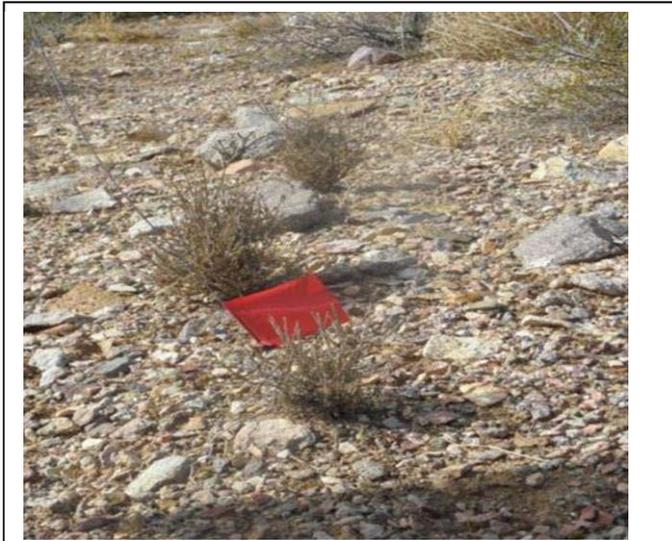


Photo 26. Blackbrush seedlings at Transect B in the Garden Spring allotment; burned 1999.



Photo 25. Transect D in the Garden Spring allotment; unburned. This is an example of an important use area with redstem filaree and big galletta.

Vegetative mosaics are prevalent in these allotments due to fire patterns. Wildfires in 1999 and 2005 and diverse soil types offer very different vegetation zones which are dynamic and diverse plant communities of varying age classes and ecological functions. See Photos 26-29 below which shows mosaics created by fire frequency and the different stages of recovery that are apparent between the foreground and background.



Photo 27. Transect B in Garden Spring allotment. Burned in 1999. The 2005 burned area can be seen in the

At this latitude filaree and annual brome can germinate in the fall and winter, which is consistent with precipitation patterns in this area. This makes them a consistent forage source. Unfortunately this also means that there will always be a source of fine fuels that increase the risk of wildfire. Grazing is an inexpensive tool to control annual production and fuel buildup. The current season of use enables utilization of these annual forages. Wildfire in the Mojave Desert has overwhelmingly shown to be devastating to vegetation and ecosystem processes in arid warm deserts and recovery is extremely slow and only possible if fire frequency is kept within historical intervals. This allotment is in the Great Basin - Mojave Desert ecotone and does not experience the harsh environmental conditions of the interior Mojave Desert. It is still within desert tortoise habitat and measures should be taken to prevent fire but to also preserve plant diversity and overgrazing.



Photo 28. Re-sprouting desert bitterbrush and yucca at Transect G in the Garden Spring allotment; burned in 2005.



Photo 29. Vigorous re-sprouting of desert bitterbrush in the 1999 burned area on the north part of Garden Spring allotment. Note that the 2005 burned area can be seen in the background.

White Rock Discussion

Achieving the Habitat and Biota standard.  
In conformance with the guidelines.

Vegetative cover and structure on the White Rock allotment is adequate in most areas, though some were found to be departed from the ESD. The discussion for the Soils Standard analyzes vegetative cover results in length. Perennial grass components are consistently low, which could be due to historical over grazing, drought or other environmental factors such as invasive species. Current livestock utilization levels are acceptable and meeting objectives. Current grazing practices are most likely not the cause for reduced perennial grasses. The plant species present in the unburned areas offer structure that is conducive to desert tortoise habitat needs. These unburned areas are late seral blackbrush and creosote communities that are typical of Mojave Desert vegetation and are consistent with the habitat for desert tortoise. Please see line-intercept and line-point intercept data in Table 6 in Appendix I.

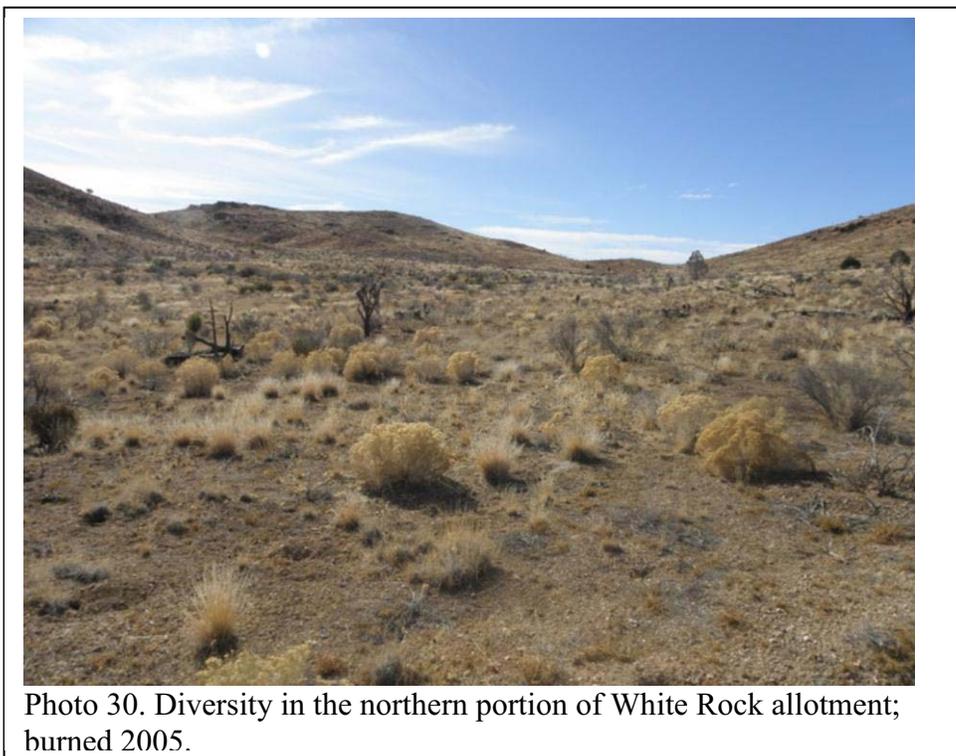


Photo 30. Diversity in the northern portion of White Rock allotment; burned 2005.

The burned areas are departed from the ESD, but have shown recovery and establishment of new plant communities. Burned areas support diverse, early-seral plant communities that contain species that are otherwise present in very low amounts pre-fire (photos 30).

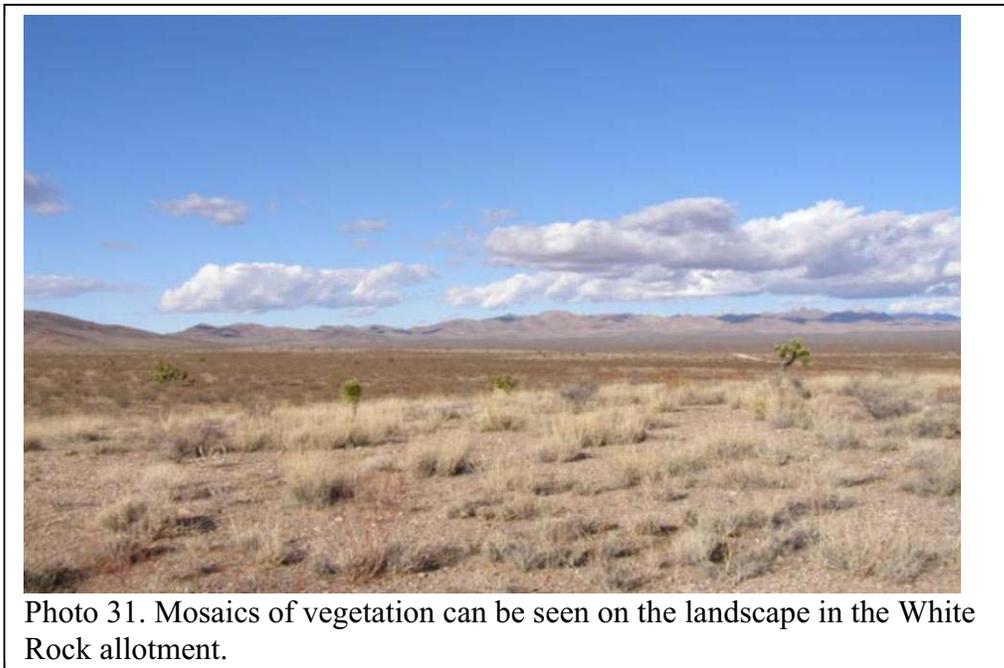
This matrix of burned and unburned range provides landscape scale diversity and mosaics of varying plant species, structure and ages. The burned and unburned range offers nutritious and palatable

forage species for cattle grazing and for desert tortoise consumption. Annual redstem filaree is a low-growing forb that provides consistent high-quality forage for cattle and tortoises alike. Annual brome grazed in the spring provides forage that helps supplement and reduce grazing pressure on native perennial vegetation such as big galletta, Indian ricegrass and Nevada ephedra. Desert globemallow is also found to be very prevalent, especially on burned areas and is shown to be valuable forage that has moderate regrowth potential and will green-up twice in one season.

Utilization is slight to moderate at key forage plant use areas, indicating that the grazing system is meeting proper utilization objectives. This also indicates that the 10-year average actual use

levels are appropriate for the current conditions and are supporting vegetation production at levels that are sustainable to grazing. The level of use recommended in the Ely RMP (2008) in the USFWS Desert Tortoise Biological Opinion (Appendix D page 25) sets maximum allowable use levels for plant functional groups. Maximum utilization will be 40 percent of annual growth of grasses, forbs and shrubs from March 1 to October 31. Maximum utilization will be 50 percent of current year's growth on perennial grasses and 45 percent of current year's growth on shrubs and forbs from November 1 to February 28. The current utilization levels are compliant with USFWS recommendations for sustainable grazing in desert tortoise habitat.

Vegetative mosaics are prevalent in these allotments due to fire frequency patterns. Wildfires in 1999 and 2005 and diverse soil types offer very different vegetation zones which are dynamic and diverse plant communities of varying age classes and ecological functions. Photo 31 below which shows mosaics created by fire and the different stages of recovery that are apparent between the foreground and background.



Filaree and other annual species can germinate in the fall and winter, which is consistent with precipitation patterns in this area. This makes them a consistent forage source. Unfortunately this also means that there will always be a consistent supply of fine fuels that alter fire regime and increase the risk of wildfire. Grazing can be used to help reduce fuel buildup and reoccurring fires. The current season of use enables utilization of these annual forages. Wildfire in the Mojave Desert, which historically had an infrequent fire interval of greater than 100 years, has overwhelmingly shown to be devastating to vegetation and ecosystem processes and recovery is extremely slow, if at all. This allotment is in the Great Basin - Mojave Desert transition zone and does not experience the harsh environmental conditions of pure Mojave Desert. It is still within desert tortoise habitat and measures should be taken to prevent fire but to also preserve plant diversity and overgrazing.

### Summit Spring Discussion

#### **Not achieving the Standard but making significant progress toward achieving it.**

Livestock are not the causal factor; failure to meet the standard is due to fire, invasive annual vegetation which has resulted in an overall departure from the Ecological Site Description for that soil type.

#### **Grazing is in conformance with the Guidelines.**

In the unburned areas of the Summit Spring allotment, rangeland health and habitat quality is superior. There is high plant diversity, forage availability, ground cover and plants are healthy and abundant. Key Areas 3 and 4 are located in blackbrush/Nevada ephedra communities but very vigorous stands of ungrazed big galletta and Nevada ephedra run the entire wash and in the uplands of the unburned area. Key Area 5 supports bursage, range ratany, Nevada ephedra and perennial grasses such as big galletta and Indian ricegrass. Mosaics of vegetation occur throughout the unburned wash in the different soil types. The wash acts as a natural corridor to two small developed springs in the northwest edge of the allotment. The unburned range offers nutritious and palatable forage species for cattle grazing and for desert tortoise consumption. Annual redstem filaree is a low-growing forb that provides consistent high-quality forage for cattle and tortoises alike. Annual brome grazed in the spring provides high-quality forage that helps supplement and reduce grazing pressure on native perennial vegetation such as big galletta, Indian ricegrass and Nevada ephedra. Desert globemallow is also found to be very prevalent, especially on burned areas and is shown to be valuable forage that has moderate regrowth potential and will green-up twice in one season.

In the burned areas, which constitute 51 percent of the allotment, recovery is very poor. This is the reason this allotment is not meeting the habitat standard. Habitat is non-existent in the burned areas and it will most likely take the life of this permit to see substantial habitat recovery on this portion of the allotment. In the southwest corner of Summit Spring is a small portion of desert tortoise critical habitat, but it was also burned in 2005. This allotment is closer to true Mojave Desert vegetation than Garden Spring and White Rock allotments. The environment is harsher in this lower elevation and is most likely a reason for retarded plant recovery.

Utilization is none to slight at key forage plant use areas, indicating that the grazing system is meeting proper utilization objectives. This also indicates that the 10-year average actual use levels are appropriate for the current conditions and are supporting vegetation production at levels that are sustainable to grazing. The level of use recommended in the Ely RMP (2008) in the USFWS Desert Tortoise Biological Opinion (Appendix D page 25) sets maximum allowable use levels for plant functional groups. Maximum utilization will be 40 percent of annual growth of grasses, forbs and shrubs from March 1 to October 31. Maximum utilization will be 50 percent of current year's growth on perennial grasses and 45 percent of current year's growth on shrubs and forbs from November 1 to February 28. The current utilization levels are compliant with USFWS recommendations for sustainable grazing in desert tortoise habitat.

Poor water distribution limits grazing use and the burned areas have been allowed to recover naturally and without disturbance from grazing. Annual brome, redstem filaree and weeds such as Russian thistle have established vigorously in the burn. Cattle grazing generally does not

occur on that portion of the allotment due to lack of water, but continued grazing of the unburned portion will not have an impact on the ability of this allotment to meet standards. Utilization is none to slight in the Summit Spring allotment so the level of actual use is well below range carrying capacity. High litter cover from annual grasses and forbs poses a serious wildfire hazard. Prescribed cattle grazing could be used to control fine fuels in the burned portion of the allotment except water is limiting and it is difficult to keep cattle on these large contiguous tracts of burned area because the trek to water becomes the limiting factor. The current season of use enables utilization of these annual forages. Wildfire in the Mojave Desert has overwhelmingly shown to be devastating to vegetation and ecosystem processes and recovery is extremely slow, if at all.

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

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According to the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area, it must be determined if livestock grazing is a significant factor in the non-attainment of the Standards and Guidelines (BLM 2006).

Failure to meet the standards is due to fire, invasive annual vegetation and overall departure from the Ecological Site Descriptions for the respective soil types. The primary reasons for these allotments not meeting the Standards for Rangeland Health are the Duzak and Halfway fires that occurred in the summer of 2005. The high percentage of burned areas within these allotments is deemed the primary reason for not meeting Rangeland Health Standards, overall.

Livestock grazed at these actual use levels are not a contributing factor to not meeting the standards. Ten-year average actual use for the sole permittee, Newby Cattle Co., is equivalent to 43 percent, 22 percent and 41 percent of current permitted use for Garden Spring, White Rock and Summit Spring allotments, respectively. Grazing on these allotments is shown to be sustainable at this level. The majority of unburned tracts of land and remnant areas are meeting the Standards for Rangeland Health and are found to be within reasonable key forage plant use levels. This indicates that cattle are meeting grazing objectives on unburned lands and are not contributing to rangeland degradation.

Burned areas within the Garden Spring and White Rock allotments are showing substantial signs of recovery and have shown to harbor early-seral plant communities that can support and withstand grazing. The Summit Spring allotment has shown very few signs of recovery. However, since the allotment is water-limited and therefore receives very little grazing pressure it will naturally recover as biotic and abiotic resources allow.

### **PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY**

Grazing is in conformance with all applicable Guidelines as provided in the Mojave-Southern Great Basin Standards and Guidelines on the Garden Spring, White Rock and Summit Spring allotments.

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

#### Allotment Specific Management Recommendations:

**6. Change season of use from 10/1 - 5/31 to 11/1 - 4/30 for Garden Spring and White Rock.**

Justification: Coming on at 11/1 allows big galletta to set seed and complete its life cycle before livestock come on. This will enhance perennial establishment of warm season grasses by allowing for increased seed production and increased seedling establishment. Off on 4/30 removes grazing pressure from immature big galletta which has just started vegetative growth and yields 1-3 leaves at the end of May. This will allow plants to have maximum opportunity to flourish vegetatively and store root reserves. This will also allow for the use of cattle as a tool to capture the window of opportunity to graze annual grasses and forbs during vegetative growth; they are of high forage quality and highly desirable by cattle at this stage of growth. This will also increase native perennial establishment by reducing competition from non-native annuals. Removal by 4/30 also gives cool-season grasses a chance to re-grow while temperatures are still favorable. The goal is to only have these areas grazed once per growing season because the current season of use is spanning the growing season twice.

**7. Change season of use to 11/1 – 2/28 for Summit Spring until a fence is constructed to protect desert tortoise critical habitat.**

Justification: A fence is needed to restrict cattle grazing in desert tortoise critical habitat during the more active season for tortoise. This area is located in the south eastern portion of the allotment. Grazing would end beginning March 1 of the grazing season without a fence in place. With a fence grazing could continue until April 30 over the remainder of the allotment.

**8. Maximum allowable use levels for plant functional groups will be as follows: 40 percent of annual growth of grasses, forbs and shrubs from March 1 to October 31. 50 percent of current year's growth on perennial grasses and 45 percent of current year's growth on shrubs and forbs from November 1 to February 28. Livestock will be 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 will require authorization from the Authorized Officer.**

Justification: This level of use is recommended in the Ely RMP (2008) in the USFWS Biological Opinion, Appendix D page 25. This use level for perennial grasses and forbs is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for

protection of soils, 2) to contribute to litter cover, and 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover. This use level for shrubs is necessary to allow desirable perennial key browse species to develop branchlets and woody stature able to withstand the pressure of grazing use.

9. **Put 40 percent of AUMS into voluntarily non-use for fuels management purposes, while the remaining 60 percent will remain in Active Use. This leaves 1693, 1738, and 433 AUM's in Active Use in the Garden Spring, White Rock, and Summit Spring allotments, respectively. This would place 1130, 1158, and 289 AUM's in voluntary non-use for a period of 10 years in the Garden Spring, White Rock and Summit Spring allotments, respectively. Voluntary non-use of AUM's is for fuels management purposes and is not a permanent revocation of grazing privileges.**

Justification: The ID team feels that if these allotments were grazed at 100 percent of permitted use, with the current circumstances (high percentage of burned areas, low perennial grass populations, low precipitation, etc.), that rangeland degradation would occur. The ID team recommends that AUM's still remain intact but be placed in voluntary non-use for the life of this permit (10 years). When the next rangeland health evaluation is conducted for permit renewal (approximately 2020), the allotments will be re-analyzed to determine if reinstatement of the voluntarily non-use AUM's is the appropriate management decision. If resource conditions allow, all or a percent of the voluntarily non-use AUM's will be reinstated to Active AUM's. Examples of justification for re-instatement of voluntarily non-use AUM's to active AUM's would be if fire recovery objectives were met on the allotment, if current plant communities in burned areas are stable, vigorous, and harbor plant species that can sustain grazing. This is in accordance with Reasonable and Prudent Measure 7.i of the Biological Opinion for the Ely RMP (2008).

10. **Voluntarily non-use AUM's may be re-instated as Active AUM's on an annual basis as resource conditions dictate. Voluntarily non-use AUM's (1130, 1158, and 289 AUM's in the Garden Spring, White Rock and Summit Spring allotments, respectively) will be available on an ANNUAL BASIS if resource conditions require reduction of fine fuels buildup. These AUM's will show as a line item on the permit that will allow for their use in years that require fine fuels reduction. Annual use of any AUM's in voluntary non-use must be evaluated by the ID Team and approved by the Authorizing Officer.**

Justification: Grazing use on these allotments in the past has fluctuated with precipitation and this Term and Condition allows for flexibility to use some of those voluntarily non-use AUM's if above criteria is met and the Authorizing Officer and ID Team approves it. Temporarily re-instating voluntarily suspended AUM's is considered a tool for resource emergencies, such as reducing fire hazard. It is recognized that fire in the Mojave Desert is devastating to all resources and it is considered a high priority to reduce the risk of fire. Grazing cattle in this prescribed fashion can be used to target annual grasses and significantly reduce the buildup of fine fuels.

#### Additional Terms and Conditions:

5. To improve livestock distribution the placement of mineral blocks or salt blocks will be a minimum distance of ½ mile from water sources, riparian areas, sensitive sites, and cultural resource sites.
6. Cattle will continue to be rotated throughout the allotment by providing water at different locations at different times. This includes the use of wells, reservoirs, spring developments, and water hauls.
7. Use in the Garden Spring, White Rock and Summit Spring allotments will be in accordance with the Mojave-Southern Great Basin Area Standards and Guidelines.
8. No motorized access is permitted within the designated Mormon Mountain or Clover Mountain Wilderness Areas without approval of the Field Manager. Motorized access may be permitted for emergency situations, or where practical alternatives for reasonable grazing management needs are not available and such motorized use would not have an adverse impact on the natural environment.

#### Additional Stipulations Common to All Grazing Allotments:

1. Livestock numbers identified in the Term Grazing Permit are a function of seasons of use and permitted use. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations would not prevent attainment of the multiple-use objectives for the allotment.
2. Deviations from specified grazing use dates will be allowed when consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing use
3. The authorized officer is requiring that an actual use report (form 4130-5) be submitted within 15 days after completing your annual grazing use.
4. Grazing use will be in accordance with the Standards and Guidelines for Grazing Administration. The Standards and Guidelines have been developed by the respective Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR Subpart 4180 - Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.
5. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be reissued subject to revised terms and conditions.
6. Pursuant to 43 CFR 10.4 (G) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the

immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

7. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.
8. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.
9. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

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## **APPENDIX I**

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### **DATA SUMMARY**

#### **1. Key Areas and Ecological Sites**

A key area is a relatively small portion of a pasture or allotment selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that key areas, if properly selected, will reflect the current grazing management over the pasture or allotment as a whole (NRCS 1997). Key areas represent range conditions, trends, seasonal degrees of use, and resource production and values. Tables 8-10 depict key areas within the Garden Spring, White Rock and Summit Spring allotments as well as the ecological site associated with the key area and dominate soils of each site. The maps in Appendix II show key area locations in the Garden Spring, White Rock and Summit Spring allotments as well as range improvements, burn areas, etc.

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

<b>Table 1. Garden Spring Allotment Key Areas and Ecological Sites</b>		
<b>Key Area/Transect ID</b>	<b>Soil Type</b>	<b>Ecological Site</b>
KA-3	Mormount-Canutio association	Shallow Gravelly Loam 5-7 PZ R030XB029NV
KA-4*	Mormount very gravelly sandy loam 2-10 percent slopes	Shallow Gravelly Loam 5-7 PZ R030XB029NV
KA-5*	Aymate-Canutio association	Claypan 5-7 PZ R030XB043NV
Transect A	Rapado-Oleman association	Shallow Gravelly Loam 8-10 PZ R029XY077NV
Transect B	Rapado-Oleman association	Shallow Gravelly Loam 8-10 PZ R029XY077NV
Transect C	Mormount-Canutio association	Shallow Gravelly Loam 5-7 PZ R030XB029NV
Transect D	Aymate-Canutio association	Claypan 5-7 PZ R030XB043NV
Transect E	Mormount-Canutio association	Shallow Gravelly Loam 5-7 PZ R030XB029NV
Transect F	Mormount very gravelly sandy loam 2-10 percent slopes	Shallow Gravelly Loam 5-7 PZ R030XB029NV
Transect G	Rapado-Oleman association	Shallow Gravelly Loam 8-10 PZ R029XY077NV
Transect H	Rapado-Oleman association	Shallow Gravelly Loam 8-10 PZ R029XY077NV
*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent this soil type.		

<b>Table 2. White Rock Allotment Key Areas and Ecological Sites</b>		
<b>Key Area/Transect ID</b>	<b>Soil Type</b>	<b>Ecological Site</b>
KA-1	Aymate-Canutio association	Claypan 5-7 PZ R030XB043NV
KA-3	Aymate sandy loam 0-2 percent slopes	Sandy Loam 5-7 PZ R030XB035NV
KA-4*	Mormount-Canutio association	Shallow Gravelly Loam 5-7 PZ R030XB029NV
KA-5*	Mormount very gravelly sandy loam 2-10 percent slopes	Shallow Gravelly Loam 5-7 PZ R030XB029NV
KA-6*	Zeheme-Kanesprings-Rock Outcrop association	Shallow Limestone Slope 5-7P R030XB030NV
KA-7*	Geta-Arizo association	Sandy Plain 5-7 PZ R030XB034NV
Transect A	Rapado-Oleman association	Shallow Gravelly Loam 8-10 PZ R029XY077NV
Transect B	Kanesprings-Kanackey-Rock Outcrop association	Shallow Gravelly Loam 5-7 PZ R030XB029NV
Transect C	Aymate sandy loam 0-2 percent slopes	Sandy Loam 5-7 PZ R030XB035NV
Transect D	Aymate sandy loam 0-2 percent slopes	Sandy Loam 5-7 PZ R030XB035NV
Transect E	Aymate-Canutio association	Claypan 5-7 PZ R030XB043NV

\*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent this soil type.

<b>Table 3. Summit Spring Allotment Key Areas and Ecological Sites</b>		
<b>Key Area/Transect ID</b>	<b>Soil Type</b>	<b>Ecological Site(s)</b>
KA-3*	St. Thomas-Zeheme-Rock Outcrop association	Limy Hill 5-7 PZ R030XB001NV
KA-4*	St. Thomas-Zeheme-Rock Outcrop association	Limy Hill 5-7 PZ R030XB001NV
KA-5*	Shankba-Chinkle-Kanackey association	Shallow Gravelly Loam 5-7 PZ R030XB029NV

\*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent this soil type.

## 2. Utilization

Utilization is the estimation of the proportion of annual production consumed or destroyed by animals (Swanson 2006). The general utilization objective for all allotments in the Ely BLM District according to the Ely District Record of Decision and Approved Resource Management Plan (ROD/RMP – August, 2008) is to “Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health” (Ely RMP, p. 85). The Nevada Rangeland Monitoring Handbook gives guidelines to determine the proper use levels by plant category (grasses, forbs, and shrubs) and by grazing season (spring, summer, fall, winter, year-long). 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 was used to collect utilization data. A summary of the site locations and respective use levels is shown below in Table 4. Utilization for all herbivores was slight to moderate across all allotments.

<b>Table 4. Key Forage Plant Utilization on the Garden Spring, White Rock and Summit Spring Allotments</b>				
<b>Allotment</b>	<b>Study Area</b>	<b>Key Forage plant</b>	<b>Key Forage plant</b>	<b>Key Forage plant</b>
Garden Spring	KA-1/KA-4	Forage Species Not Present		
	KA-2/KA-5/Transect D	Big Galletta 41 percent	Nevada Ephedra 30 percent	
	KA-3	Forage Species Not Present		
White Rock	KA-1	Big Galletta 47 percent	Nevada Ephedra 36 percent	
	KA-3	Big Galletta 37 percent	Nevada Ephedra 50 percent	Sand Dropseed 4 percent
	KA-4*	Big Galletta 51 percent	Nevada Ephedra 38 percent	
	KA-5*	Forage Species Not Present		
	KA-6*	Big Galletta 4 percent	Nevada Ephedra 10 percent	Indian Ricegrass 25 percent
	KA-7*	Forage Species Not Present		
Summit Spring	KA-1/KA-3	Big Galletta 2 percent	Nevada Ephedra 4 percent	
	KA-2/KA-4	Big Galletta 18 percent	Nevada Ephedra 4 percent	Indian Ricegrass 0 percent
	KA-5*	Big Galletta 3 percent	Nevada Ephedra 1 percent	Indian Ricegrass 0 percent
*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent the respective soil type.				

### 3. Cover Studies

#### *Line Intercept Method -*

Canopy cover is the percent of ground covered by a vertical projection of the outermost perimeter of the natural spread of foliage, including small openings (Swanson 20006). The Line Intercept Method is a commonly used method of determining the relative percent live foliar or canopy 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 ecological site as indicated by the Rangeland Ecological Site Descriptions (ESD). Results are also compared to general known healthy rangelands.

#### *Line-Point Intercept Method -*

Line-point intercept is a rapid, accurate method for quantifying soil cover, including vegetation, litter, rocks and biotic crusts. These measurements are related to wind and water erosion, water infiltration and the ability of the site to resist and recover from degradation (Herrick et al 2005). The results from this cover study are compared to the appropriate cover for each ecological site as indicated by the Natural Resources Conservation Service (NRCS) Rangeland Ecological Site Descriptions (ESD). Results are also compared to general known healthy rangelands.

Line-point intercept usually only detects those species that represent a relatively high proportion of the total cover. Species with <5 percent cover on a site are often not detected with line-point intercept method, or are often underestimated (Herrick et al. 2009).

Total cover calculated by using the Line-Point Intercept method is the proportion of the soil surface that is covered by vascular plant parts, litter, rocks, mosses and lichens. Total cover is positively correlated with soil and site stability and hydrologic function.

Basal and Foliar cover estimates calculated by using the Line-Point Intercept method is an indicator of biotic integrity. It is more closely related to production, energy flow and nutrient cycling (Herrick et al. 2009) than total cover estimates. Biotic integrity reflects the capacity of a site to support characteristics functional and structural communities in the context of normal variability; to resist loss of this function and structure due to a disturbance; and to recover following disturbance. Dead and decadent vegetation contribute positively to foliar cover protection of the soil surface. (Herrick et al. 2009)

Line Intercept and Line-Point Intercept cover studies were conducted in 2009 at 25 study sites on the Garden Spring, White Rock and Summit Spring allotments. Tables 5, 6, and 7 below summarize cover data collected as well as ESD expected values.

Table 5. Garden Spring Allotment Cover and Composition														
Key Area/ Transect ID	Expected ^						Actual							
	Total percent Cover	percent Composition			Total percent Cover	percent Composition			Total percent Veg. Cover	percent Composition				
		Grass	Forb	Shrub		Grass	Forb	Shrub		Litter Cover	Rock Cover	Grass	Forb	Shrub
KA-3	15-30	10	5	85	10.8	0.5	8.1	91.8	15	22	35	0	40	60
KA-4*	15-30	10	5	85	21.5	0.0	0.0	99.8	24	31	35	0	0	100
KA-5*	10-20	60	10	30	14	1.5	5.7	94.6	17	36	4	0	29	76
Transect A	25-35	15	5	80	26.4	47.3	3.6	49.1	49	65	28	51	10	37
Transect B	25-35	15	5	80	14.1	0.0	3.2	96.5	17	34	31	0	12	88
Transect C	15-30	10	5	85	29.4	0.0	0.0	100.0	21	19	32	0	0	100
Transect D	10-20	60	10	30	4.9	13.3	0.0	85.7	5	24	26	0	0	100
Transect E	15-30	10	5	85	35.8	0.0	0.0	99.9	29	32	23	0	0	100
Transect F	15-30	10	5	85	46.2	0.0	0.0	100.0	57	51	18	0	0	100
Transect G	25-35	15	5	80	6.3	0.0	0.0	100.0	7	38	7	0	0	100
Transect H	25-35	15	5	80	5.8	22.4	47.4	30.2	10	37	51	30	40	30

^From NRCS Ecological Site Description  
\*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent the respective soil type.

Table 6. White Rock Allotment Cover and Composition														
Key Area/ Transect ID	Expected <sup>^</sup>						Actual							
	Total percent Cover	percent Composition			Total percent Cover	percent Composition			Total percent Veg. Cover	percent Composition				
		Grass	Forb	Shrub		Grass	Forb	Shrub		Litter Cover	Rock Cover	Grass	Forb	Shrub
KA-1	10-20	60	10	30	5.7	4.4	0.0	94.7	4	34	35	0	0	100
KA-3	25-35	35	10	55	11	1.4	0.0	98.4	17	42	30	6	6	76
KA-4*	15-30	10	5	85	13.5	0.4	0.0	99.8	23	15	33	0	21	79
KA-5*	15-30	10	5	85	19	0.0	0.8	98.9	24	40	29	0	8	92
KA-6*	10-15	10	5	85	23.5	0.0	0.0	99.8	31	36	29	0	0	100
KA-7*	5-10	25	10	65	10.5	0.9	0.2	98.6	23	30	16	0	43	35
Transect A	25-35	15	5	80	2.3	34.8	65.2	0.0	1	23	29	0	0	100
Transect B	15-30	10	5	85	4.4	20.5	27.3	52.3	5	8	30	40	40	20
Transect C	25-35	35	10	55	17.9	0.0	0.0	99.7	14	16	15	0	0	100
Transect D	25-35	35	10	55	21.6	17.8	4.2	86.1	16	27	20	19	6	75
Transect E	10-20	60	10	30	11.5	66.5	0.0	33.5	14	26	55	71	0	29

<sup>^</sup>From NRCS Ecological Site Description  
\*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent the respective soil type.

Table 7. Summit Spring Allotment Cover and Composition														
Key Area/ Transect ID	Expected <sup>^</sup>						Actual							
	Total percent Cover	percent Composition			Total percent Cover	percent Composition			Total percent Litter	percent Rock Cover	percent Composition			
		Grass	Forb	Shrub		Grass	Forb	Shrub			Grass	Forb	Shrub	
KA-3*	10-15	10	5	85	18.5	0	3	97	21	25	14	0	0	100
KA-4*	10-15	10	5	85	38.3	0	0	100	51	41	12	0	0	100
KA-5*	5-10	10	10	80	29	2	2	96	33	17	39	3	6	94

<sup>^</sup>From NRCS Ecological Site Description  
\*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent the respective soil type.

#### 4. Ecological Condition

Ecological site descriptions (ESDs) are reports that describe the a) biophysical properties of ecological sites, b) vegetation and surface soil properties of reference conditions that represent either i) pre-European vegetation and historical range of variation (in the United States) or ii) proper functioning condition or potential natural vegetation, c) state-and-transition model graphics and text, and d) a description of ecosystem services provided by the ecological site and other interpretations.

Table 8. Garden Spring Allotment Ecological Site Description and Actual Vegetation Types					
Key Area/ Transect ID	Ecological Site	Expected		Actual	
		NRCS Ecological Site Description		Vegetation Type (Most to Least Abundant)	Fire Status
		Vegetation Type			
KA-3	Shallow Gravelly Loam 5-7 PZ R030XB029NV	Blackbrush Creosote - Big Galletta Indian Ricegrass Desert Needlegrass	Blackbrush Creosote - Big Galletta Indian Ricegrass Desert Needlegrass	yucca, cholla, Nevada ephedra, blackbrush, globemallow, 4 o'clock, desert rue, <i>Eriogonum</i> spp., spiny hopsage, Joshua tree, purple threeawn, red brome, redstem filaree, unknown yellow composite forb, rabbitbrush, Indian ricegrass, tansy mustard, snakeweed, phlox, desert needlegrass	Prescribed (~50ya)
KA-4*	Shallow Gravelly Loam 5-7 PZ R030XB029NV	Blackbrush Creosote - Big Galletta Indian Ricegrass Desert Needlegrass	Blackbrush Creosote - Big Galletta Indian Ricegrass Desert Needlegrass	Blackbrush, Nevada ephedra, creosote, Joshua tree, big galletta, desert rue, showy goldenhead, redstem filaree, red brome, shismus, desert almond, cholla, biological crust	Unburned
KA-5*	Claypan 5-7 PZ R030XB043NV	Creosote Winterfat	Creosote Winterfat	bursage, creosote, Joshua tree, range ratany, big galletta, showy goldenhead, spiny hopsage,	Unburned

Transect A	Shallow Gravelly Loam 8-10 PZ R029XY077NV	<ul style="list-style-type: none"> <li>Spiny Hopsage</li> <li>White Bursage</li> <li>Nevada Ephedra</li> <li>Range Rantany</li> <li>-</li> <li>Big Galletta</li> <li>Bush Muhly</li> <li>Indian Ricegrass</li> <li>Blackbrush</li> <li>Desert Bitterbrush</li> <li>Nevada Ephedra</li> <li>-</li> <li>Desert Needlegrass</li> </ul>	wolfberry, cholla, Nevada ephedra, <i>Eriogonum</i> spp., redstem filaree, red brome, shismus	
Transect B	Shallow Gravelly Loam 8-10 PZ R029XY077NV	<ul style="list-style-type: none"> <li>Blackbrush</li> <li>Desert Bitterbrush</li> <li>Nevada Ephedra</li> <li>-</li> <li>Desert Needlegrass</li> </ul>	Purple threewain, yerba santa, rabbitbrush, globemallow, desert bitterbrush, unknown perennial grass, yucca, cheatgrass, cactus, redstem filaree, several species of senesced forbs	Burned (1999&2005)
Transect C	Shallow Gravelly Loam 5-7 PZ R030XB029NV	<ul style="list-style-type: none"> <li>Blackbrush</li> <li>Desert Bitterbrush</li> <li>Nevada Ephedra</li> <li>-</li> <li>Desert Needlegrass</li> <li>Blackbrush</li> <li>Creosote</li> <li>-</li> <li>Big Galletta</li> <li>Indian Ricegrass</li> <li>Desert Needlegrass</li> </ul>	desert bitterbrush, desert rue, Nevada ephedra, redstem filaree, globemallow, cheatgrass, purple threewain, Douglas and rubber rabbitbrush, blackbrush seedlings, yucca, fluffgrass, crested wheatgrass, red brome	Burned 1999
Transect D	Claypan 5-7 PZ R030XB043NV	<ul style="list-style-type: none"> <li>Creosote</li> <li>Winterfat</li> <li>Spiny Hopsage</li> <li>White Bursage</li> <li>Nevada Ephedra</li> <li>Range Rantany</li> <li>-</li> <li>Big Galletta</li> <li>Bush Muhly</li> <li>Indian Ricegrass</li> <li>Blackbrush</li> </ul>	blackbrush, creosote, Nevada ephedra, bursage, Joshua tree, red brome, big galletta, fluffgrass, redstem filaree, yucca	Unburned
Transect E	Shallow Gravelly	<ul style="list-style-type: none"> <li>creosote, range ratany, big galletta, Joshua tree, <i>Eriogonum</i> spp., redstem filaree, cholla, red brome</li> <li>blackbrush, creosote, Joshua tree, desert rue,</li> </ul>	blackbrush, creosote, Joshua tree, desert rue,	Unburned

	Loam 5-7 PZ R030XB029NV	Creosote - Big Galletta Indian Ricegrass Desert Needlegrass	redstem filaree, shismus, red brome, Nevada ephedra	
Transect F	Shallow Gravelly Loam 5-7 PZ R030XB029NV	Blackbrush Creosote - Big Galletta Indian Ricegrass Desert Needlegrass	blackbrush, Nevada ephedra, yucca, red brome, redstem filaree, cheatgrass, Joshua tree, desert rue, cholla, cactus, creosote, biological crust	Unburned
Transect G	Shallow Gravelly Loam 8-10 PZ R029XY077NV	Blackbrush Desert Bitterbrush Nevada Ephedra - Desert Needlegrass	desert bitterbrush, globemallow, yucca, desert rue, redstem filaree, cheatgrass, fluffgrass, unknown forb, purple threewain, Joshua tree, Nevada ephedra	Burned 2005
Transect H	Shallow Gravelly Loam 8-10 PZ R029XY077NV	Blackbrush Desert Bitterbrush Nevada Ephedra - Desert Needlegrass	rabbitbrush, globemallow, Nevada ephedra, redstem filaree, yucca, purple threewain, Joshua tree, red brome, cheatgrass, fluffgrass, desert rue, unknown forb, <i>Eriogonum</i> spp., unknown forb, unknown forb	Burned 2005
*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent this soil type.				

**Table 9. White Rock Allotment Ecological Site Description and Actual Vegetation Types**

Key Area/ Transect ID	Ecological Site	Expected		Actual	
		NRCS Ecological Site Description		Vegetation Type	Fire Status
		Vegetation Type			
KA-1	Claypan 5-7 PZ R030XB043NV	Creosote Winterfat Spiny Hopsage White Bursage Nevada Ephedra Range Rantany - Big Galletta Bush Muhly Indian Ricegrass	Creosote, red brome, redstem filaree, gilia, Joshua tree, <i>Eriogonum</i> spp., winterfat, globemallow, range ratany, desert almond, snakeweed, Nevada ephedra, big galletta, Indian ricegrass, stickseed, desert almond, cholla, showy goldenhead, spiny hopsage	Unburned	
KA-3	Sandy Loam 5-7 PZ R030XB035NV	Fourwing Saltbush Spiny Hopsage Winterfat Wolfberry Nevada Ephedra - Big Galletta Indian Ricegrass Dropseed Bush Muhly	redstem filaree, <i>Eriogonum</i> spp., red brome, creosote, range ratany, fourwing saltbush, big galletta, Joshua tree, desert rue, showy goldenhead, cholla, purple threearawn, desert marigold, sand dropseed, biological crust	Unburned	
KA-4*	Shallow Gravelly Loam 5-7 PZ	Blackbrush Creosote	blackbrush, range ratany, Nevada ephedra, redstem filaree, creosote, <i>Eriogonum</i> spp., showy	Unburned	

	R030XB029NV	- Big Galletta Indian Ricegrass Desert Needlegrass	goldenhead, spiny hopsage, winterfat, Joshua tree, stickseed, desert rue, globemallow, Indian ricegrass, red brome, shismus, big galletta	
KA-5*	Shallow Gravelly Loam 5-7 PZ R030XB029NV	Blackbrush Creosote - Big Galletta Indian Ricegrass Desert Needlegrass	creosote, Joshua tree, blackbrush, aster, redstem filaree, showy goldenhead, globemallow, Nevada ephedra, biological crust	Unburned
KA-6*	Shallow Limestone Slope 5-7P R030XB030NV	Blackbrush Creosote Ephedra - Desert Needlegrass Big Galletta	blackbrush, creosote, Joshua tree, spiny hopsage, desert rue, range ratany, desert marigold, globemallow, Indian ricegrass, red brome, redstem filaree, Nevada ephedra, <i>Eriogonum</i> spp., cholla, cactus, phlox, stickseed, winterfat, unknown red flower forb, unknown yellow flower forb, biological crust	Unburned
KA-7*	Sandy Plain 5-7 PZ R030XB034NV	Shrubs - Big Galletta Bush Muhly Indian Ricegrass Dropseed	creosote, <i>Eriogonum</i> spp., redstem filaree, shismus, red brome	Unburned
Transect A	Shallow Gravelly Loam 8-10 PZ R029XY077NV	Blackbrush Desert Bitterbrush Nevada Ephedra - Desert Needlegrass	purple threeawn, sand dropseed, yucca, redstem filaree, globemallow, blackbrush, paper bag bush, Russian thistle, Joshua tree, cheatgrass, red brome, creosote, galletta, fluffgrass, showy goldenhead, desert rue, cactus, cholla, shismus, desert marigold, penstemon, desert almond, fourwing saltbush	Burned 2005
Transect B	Shallow Gravelly Loam 5-7 PZ R030XB029NV	Blackbrush Creosote - Big Galletta Indian Ricegrass	creosote, Joshua tree, big galletta, red brome, globemallow, desert marigold, redstem filaree, Nevada ephedra, shismus, <i>Eriogonum</i> spp., Russian thistle, blackbrush, fluffgrass, rabbitbrush, yucca, cholla	Burned 2005

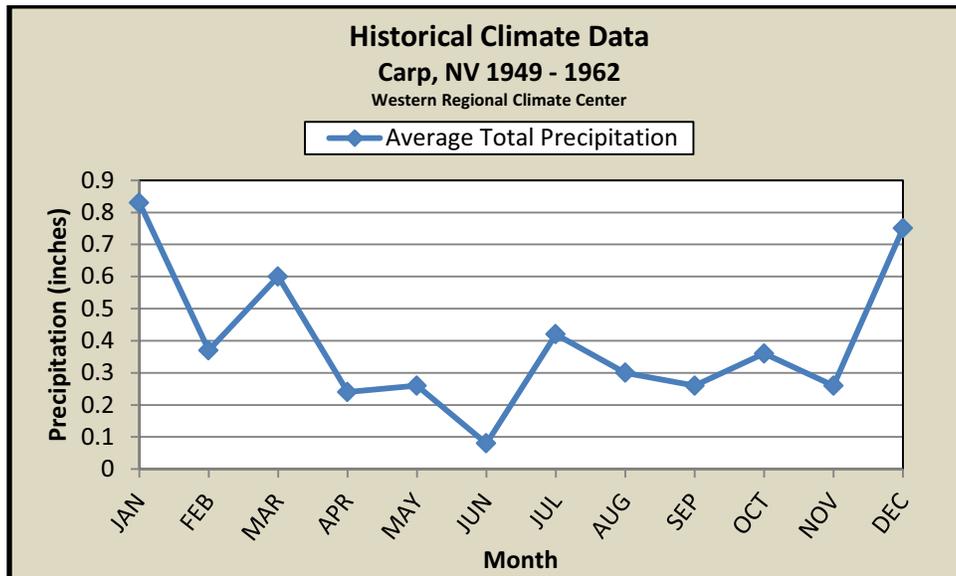
Transect C	Sandy Loam 5-7 PZ R030XB035NV	Desert Needlegrass Fourwing Saltbush Spiny Hopsage Winterfat Wolfberry Nevada Ephedra - Big Galletta Indian Ricegrass Dropseed Bush Muhly	blackbrush, desert rue, cholla, Joshua tree, range ratany, redstem filaree, red brome, yucca (2 spp.), creosote, Nevada ephedra, unknown forb, <i>Eriogonum</i> spp., showy goldenhead, biological crust	Unburned
Transect D	Sandy Loam 5-7 PZ R030XB035NV	Fourwing Saltbush Spiny Hopsage Winterfat Wolfberry Nevada Ephedra - Big Galletta Indian Ricegrass Dropseed Bush Muhly	big galletta, desert rue, Joshua tree, cholla, <i>Eriogonum</i> spp., red brome, redstem filaree, creosote, range ratany, showy goldenhead, bursage, wolfberry, globemallow, Nevada ephedra	Unburned
Transect E	Claypan 5-7 PZ R030XB043NV	Creosote Winterfat Spiny Hopsage White Bursage Nevada Ephedra Range Rantany - Big Galletta Bush Muhly Indian Ricegrass	big galletta, Joshua tree, creosote, cholla, desert almond, bursage, yucca, Nevada ephedra, red brome, redstem filaree	Unburned
*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent this soil type.				

Table 10. Summit Spring Allotment Ecological Site Descriptions and Actual Vegetation Types					
Key Area/ Transect ID	Ecological Site	Expected		Actual	
		NRCS Ecological Site Description	Vegetation Type	Vegetation Type	Fire Status
KA-3*	Limy Hill 5-7 PZ R030XB001NV	White Bursage 50-60 percent	blackbrush, Nevada ephedra, Joshua tree, showy goldenhead, snakeweed, creosote, globemallow, cholla, spiny hopsage, red brome, redstem filaree, big galletta, biological crust	Unburned	
		Creosote 5-20 percent			
KA-4*	Limy Hill 5-7 PZ R030XB001NV	Range Ratany 2-8 percent	blackbrush, Nevada ephedra, winterfat, spiny hopsage, creosote, Joshua tree, cholla, big galletta, Indian ricegrass, red brome redstem filaree, biological crust	Unburned	
		Fremont's Dalea 1-3 percent			
KA-5*	Shallow Gravelly Loam 5-7 PZ R030XB029NV	Desert Pepperweed T-5 percent	bursage, range ratany, globemallow, snakeweed, Nevada ephedra, blackbrush, creosote, Joshua tree, showy goldenhead, big galletta, Indian ricegrass, <i>Eriogonum</i> spp., cholla	Unburned	
		-			

\*Note: This is not a Key Area. It was mis-labeled and is a supplemental study site chosen to represent this soil type.

## 5. Precipitation Data

Annual precipitation greatly influences growing condition of forage species and is often correlated to available forage. Historical climate data from the Western Regional Climate Center at the Carp, Nevada (WRCC 2010) weather station is representative of the annual precipitation on the Garden Spring, White Rock and Summit Spring allotments. The graph below summarize annual precipitation data collected from 1949 to 1962. The 13 year mean annual precipitation for this station was 4.72 inches.



Lentic Checklist

Name of Riparian-Wetland Area:	Garden Springs (Garden Spring Allotment)
Date: <del>6/2/2010</del> 6/2/2010	Segment/Reach ID:
ID Team Observers:	Heather Richter, Marc Aversa, Andy Daniels, Michelle Oliver, Caitlyn Carter

Potential: Grass Dominated Marsh Meadow w/ shrubs  
 Capability: lotic-like system

Yes	No	N/A	HYDROLOGICAL
X			1) Riparian-wetland area is saturated at or near the surface or inundated in "relatively frequent" events
X			2) Fluctuation of water levels is not excessive
X			3) Riparian-wetland area is enlarging or has achieved potential extent
X			4) Upland watershed is not contributing to riparian-wetland degradation
X			5) Water quality is sufficient to support riparian-wetland plants
	X		6) Natural surface or subsurface flow patterns are not altered by disturbance (i.e., hoof action, disks, dikes, trails, roads, ditches, gullies, drilling activities)
		X	7) Structure accommodates safe passage of flows (e.g., no headcut affecting dam or spillway)

Yes	No	N/A	VEGETATION
X			8) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery) Willows + Cottonwoods
X			9) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery) [species present] Willow cottonwood corey Salix shrubs
X			10) Species present indicate maintenance of riparian-wetland soil moisture characteristics
X			11) Vegetation is comprised of those plants or plant communities that have root masses capable of withstanding wind events, wave flow events, or overland flows (e.g., storm events, snowmelt) [community types present]
X			12) Riparian-wetland plants exhibit high vigor
X			13) Adequate riparian-wetland vegetative cover present to protect shore/soil surface and dissipate energy during high wind and wave events or overland flows [enough?]

<input checked="" type="checkbox"/>			14) Frost or abnormal hydrologic heaving is not present
		<input checked="" type="checkbox"/>	15) Favorable microsite condition (i.e., woody material, water temperature, etc.) is maintained by adjacent site characteristics

Yes	No	N/A	EROSION/DEPOSITION
<input checked="" type="checkbox"/>			16) Accumulation of chemicals affecting plant productivity/composition is not apparent
<input checked="" type="checkbox"/>			17) Saturation of soils (i.e., ponding, flooding frequency, and duration) is sufficient to decompose and maintain hydric soils
<input checked="" type="checkbox"/>			18) Underlying geologic structure/soil material/permafrost is capable of restricting water percolation
<input checked="" type="checkbox"/>			19) Riparian-wetland is in balance with the water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition)
		<input checked="" type="checkbox"/>	20) Islands and shore-line characteristics (i.e., rocks, coarse and/or large woody material) are adequate to dissipate wind and wave event energies

**Remarks**

*Willow, Cottonwood, Cattails, sedges, reed canary grass*

**SUMMARY DETERMINATION**

<p><b>Functional Rating</b></p> <p><input checked="" type="checkbox"/> Proper Functioning Condition</p> <p><input type="checkbox"/> Functional - At Risk</p> <p><input type="checkbox"/> Nonfunctional</p> <p><input type="checkbox"/> Unknown</p> <p><b>Trend for Functional - At Risk:</b></p> <p><input type="checkbox"/> Upward</p> <p><input type="checkbox"/> Downward</p> <p><input type="checkbox"/> Not Apparent</p>		<p><b>Are factors contributing to unacceptable conditions outside the control of the manager?</b></p> <p>Yes <input type="checkbox"/></p> <p>No <input checked="" type="checkbox"/></p> <p><b>If yes, what are those factors?</b></p> <p><input type="checkbox"/> Flow regulations</p> <p><input type="checkbox"/> Mining activities</p> <p><input type="checkbox"/> Upstream channel conditions</p> <p><input type="checkbox"/> Channelization</p> <p><input type="checkbox"/> Road encroachment</p> <p><input type="checkbox"/> Oil field water discharge</p> <p><input type="checkbox"/> Augmented flows</p> <p><input type="checkbox"/> Other (specify) _____</p>
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(Revised 1998) (5/21/08)

PFC provide: dissipate energies associated with wind action, wave action, and overland flow from adjacent sites, thereby reducing erosion and improving water quality; filter sediment and aid floodplain development; improve flood-water retention and ground water recharge; develop root masses that stabilize islands and shoreline features against cutting action; and restrict water percolation.

### Lotic Checklist

Name of Riparian-Wetland Area: <b>Box Spring</b>		<b>(Garden Spring Allotment)</b>	
Date: <b>6/2/2010</b>	Segment/Reach ID:		
ID Team:	<b>Heather Richter, Mark D'Aversa,</b>		
Observers:	<b>Andy Daniels, Michelle Oliver, Caitlyn Carter</b>		

Potential: **Cottonwood/willow, sedge/rush stream system, sand/rock wash. intermittent dry and ~~wet~~ wet reaches**

Capability: **Same as above.**

Yes	No	N/A	HYDROLOGICAL
X	X		1) Floodplain above bankfull is inundated in "relatively frequent" events
		X	2) Where beaver dams are present are they active and stable
X	X		3) Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e. landform, geology, and bioclimatic region)
X			4) Riparian-wetland area is widening or has achieved potential extent
X			5) Upland watershed is not contributing to riparian-wetland degradation

Yes	No	N/A	VEGETATION
X	<del>X</del>		6) Diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery) <b>old/young cottonwood, willow only young vegetative spp.</b>
X			7) Diverse composition of riparian-wetland vegetation (for maintenance/recovery) <b>2 sedge spp. cattails</b> (species present) <b>cottonwood willow</b>
X			8) Species present indicate maintenance of riparian wetland soil moisture characteristics
X			9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events <b>cottonwood willow</b> (commonly types present) <b>sedge/rush</b>
X			10) Riparian-wetland plants exhibit high vigor
X			11) Adequate riparian-wetland vegetative cover present to protect banks and dissipate energy during high flows <b>well established trees, large woody debris and meanders</b> (conspicuous)

X			12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)
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Yes	No	N/A	EROSION/DEPOSITION
X			12) Floodplain and channel characteristics (i.e., rocks, overflow channels, coarse and/or large woody material) adequate to dissipate energy
X			14) Point bars are revegetating with riparian-wetland vegetation
X			15) Lateral stream movement is associated with natural sinuosity
X			16) System is vertically stable <i>Stabilized by large rocks</i> (not downcutting)
	X		17) Stream is in balance with the water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition)

*This is a disconnected riparian system in a rocky/sandy wash. Some sub-surface ranges. Flashy system*

Remarks

*Species present - Cottonwood, Sandbar willow, cat tails, 2 spp. sedge, rush, upland grasses  
big sage, colombine, several forbs*

*Salt cedar present*

*Cattle, horse, wildlife use noticed*

SUMMARY DETERMINATION

<p>Functional Rating</p> <p><input type="checkbox"/> Proper Functioning Condition</p> <p><input checked="" type="checkbox"/> Functional - At Risk</p> <p><input type="checkbox"/> Nonfunctional</p> <p><input type="checkbox"/> Unknown</p> <p>Trend for Functional - At Risk:</p> <p><i>Colonizers vs. Stabilizers?</i></p> <p><input type="checkbox"/> Upward</p> <p><input type="checkbox"/> Downward</p> <p><input type="checkbox"/> Not Apparent</p>		<p>Are factors contributing to unacceptable conditions outside the control of the manager?</p> <p>Yes</p> <p>No <input checked="" type="checkbox"/></p> <p>If yes, what are those factors?</p> <p><input type="checkbox"/> Flow regulations</p> <p><input type="checkbox"/> Mining activities</p> <p><input type="checkbox"/> Upstream channel conditions</p> <p><input type="checkbox"/> Channelization</p> <p><input type="checkbox"/> Road encroachment</p> <p><input type="checkbox"/> Oil field water discharge</p> <p><input type="checkbox"/> Augmented flows</p> <p><input type="checkbox"/> Other (specify)</p>
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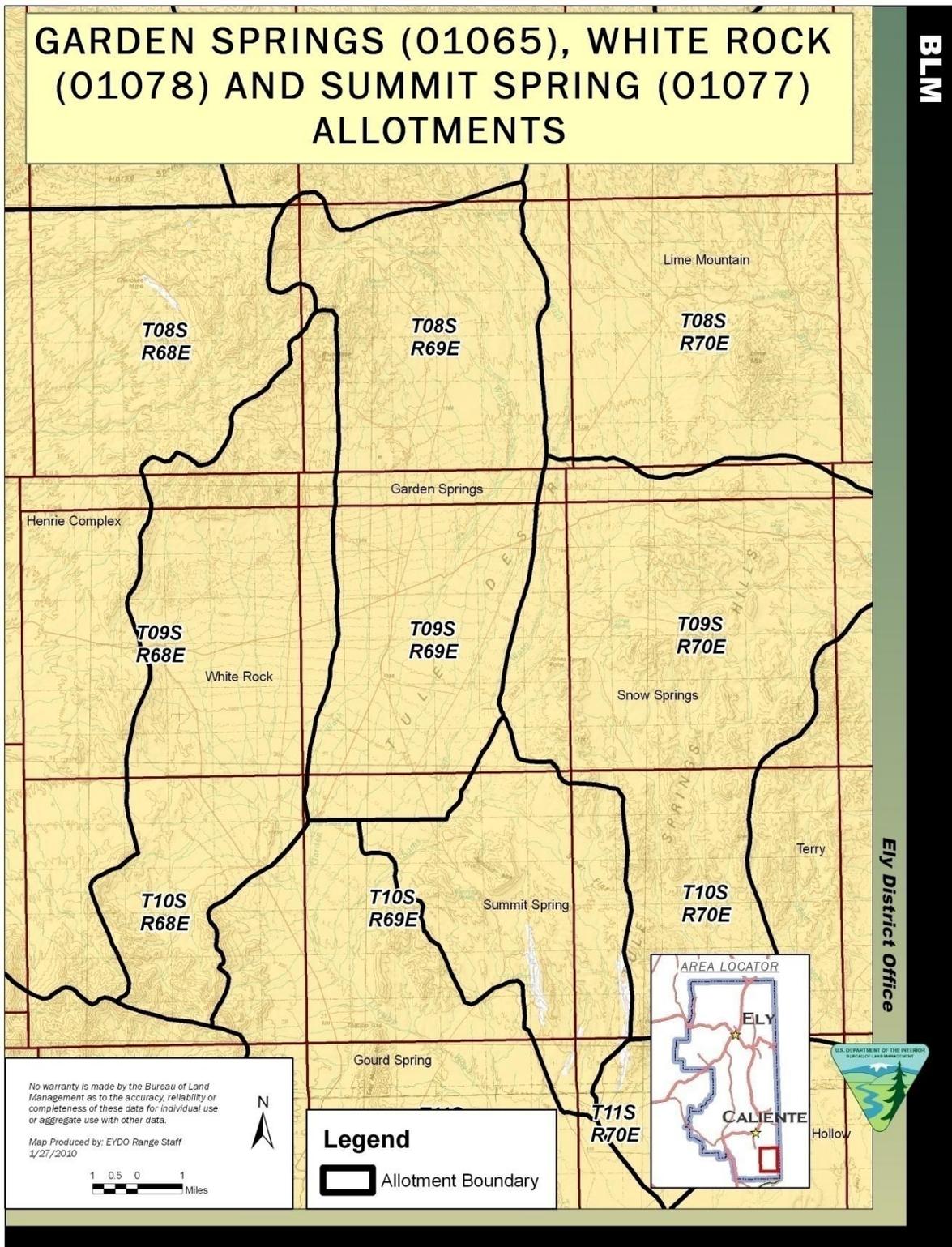
(Revised 1998) (5/2008)

PFC will provide: dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve flood-water retention and ground water recharge; and develop root masses that stabilize streambanks against cutting action.

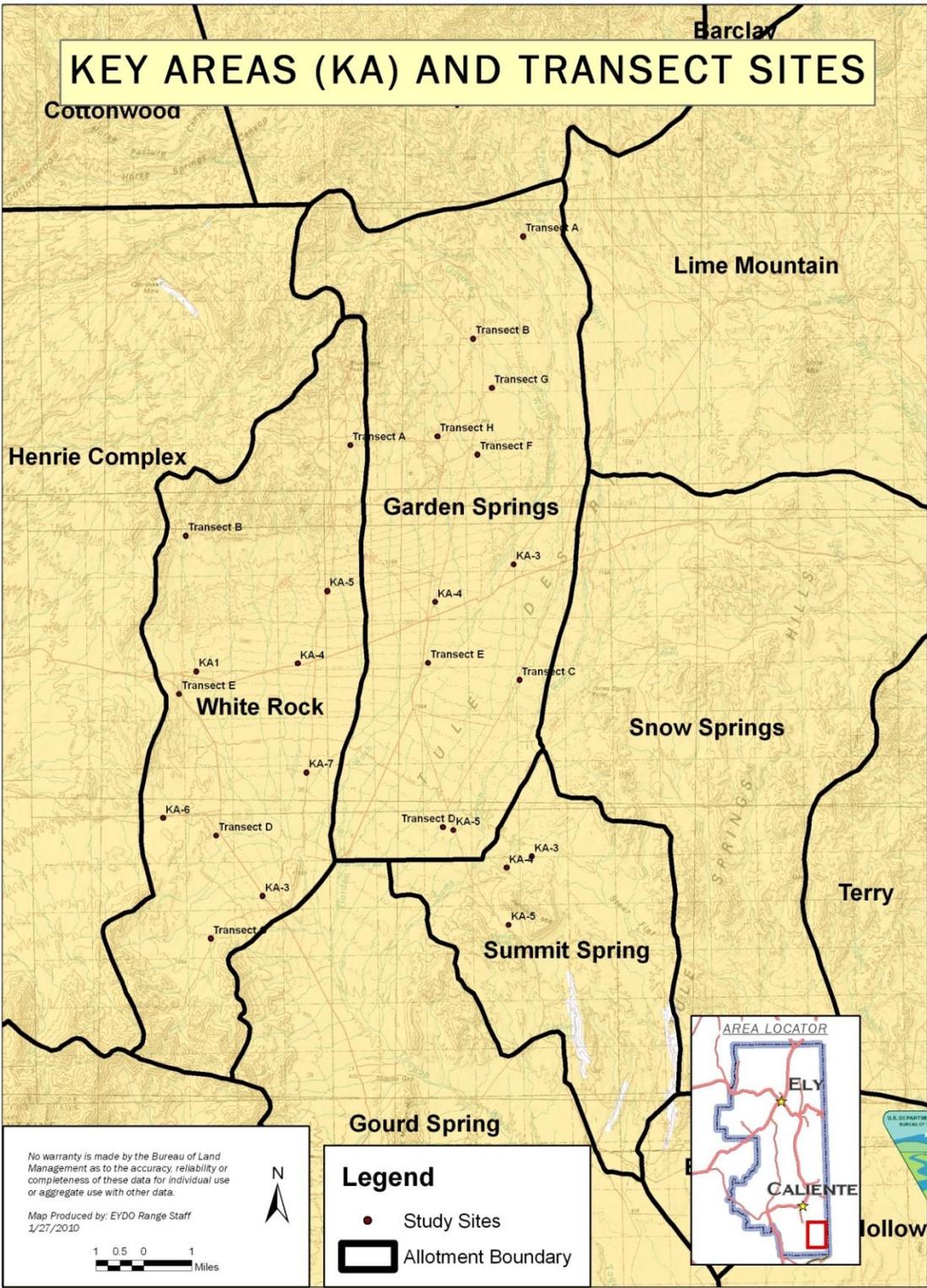
## **APPENDIX II**

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MAPS and FIGURES



# KEY AREAS (KA) AND TRANSECT SITES



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: EYDO Range Staff  
1/27/2010



## Legend

- Study Sites
- ▭ Allotment Boundary

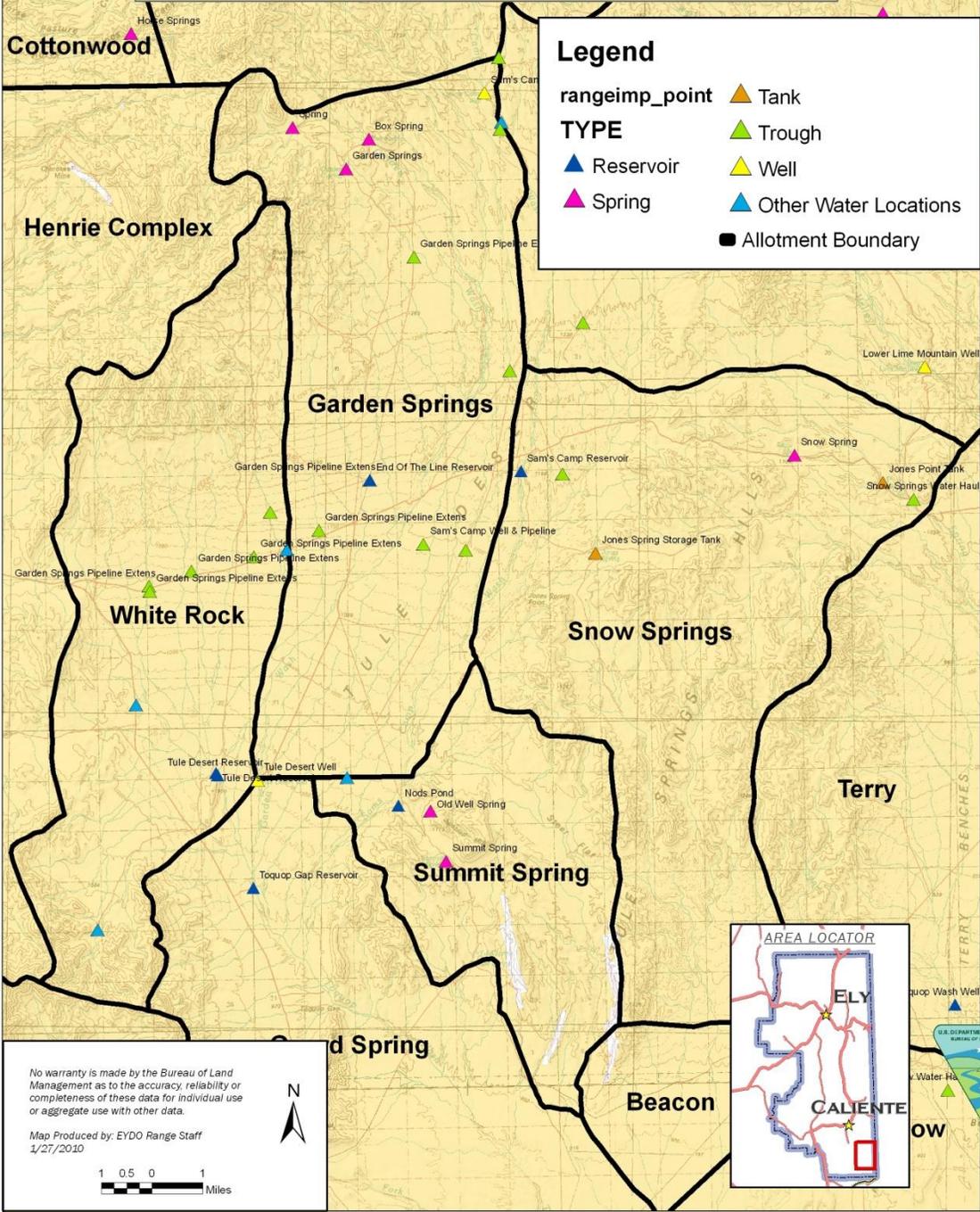


Ely District Office



BLM

# RANGE IMPROVEMENT POINTS AND WATER LOCATIONS



**Legend**

rangeimp_point	▲ Tank
TYPE	▲ Trough
▲ Reservoir	▲ Well
▲ Spring	▲ Other Water Locations
■ Allotment Boundary	

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: EYDO Range Staff  
1/27/2010

1 0.5 0 1 Miles

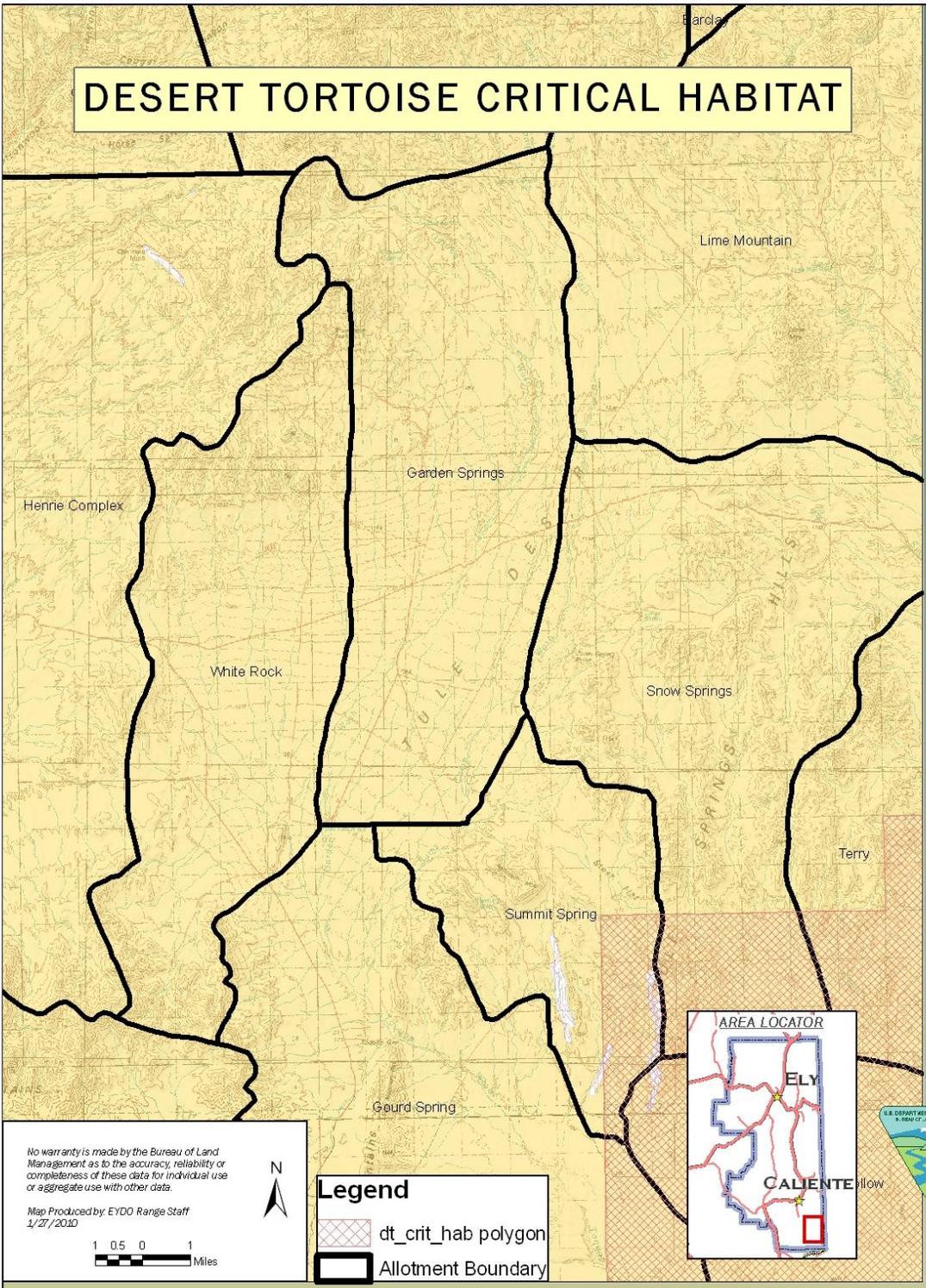


Ely District Office



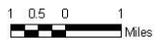
# DESERT TORTOISE CRITICAL HABITAT

BLM



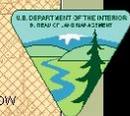
No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual use or aggregate use with other data.

Map Produced by: EYDD Range Staff  
1/27/2010



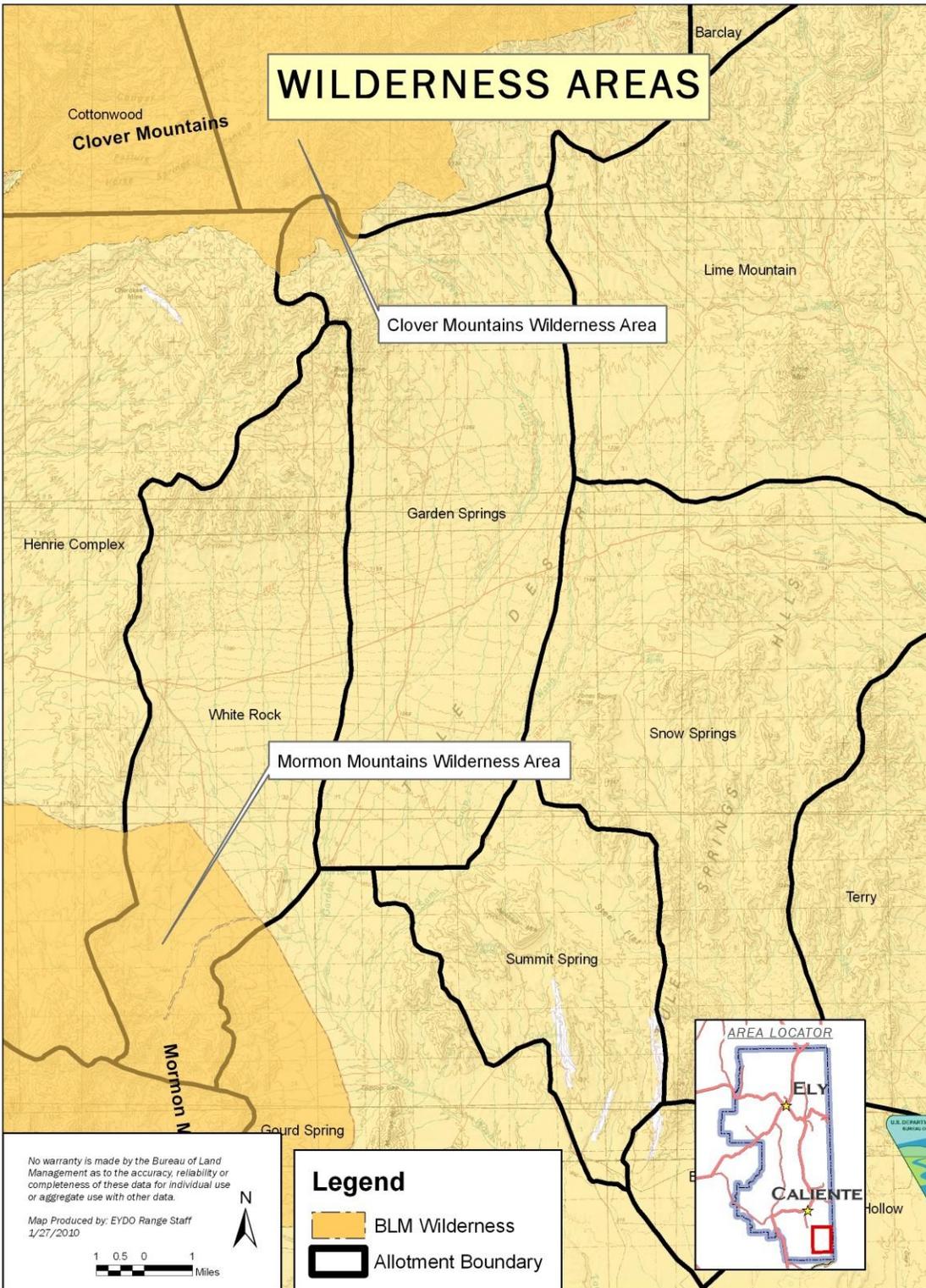
**Legend**

- dt\_crit\_hab polygon
- Allotment Boundary



Ely District Office

# WILDERNESS AREAS



Ely District Office



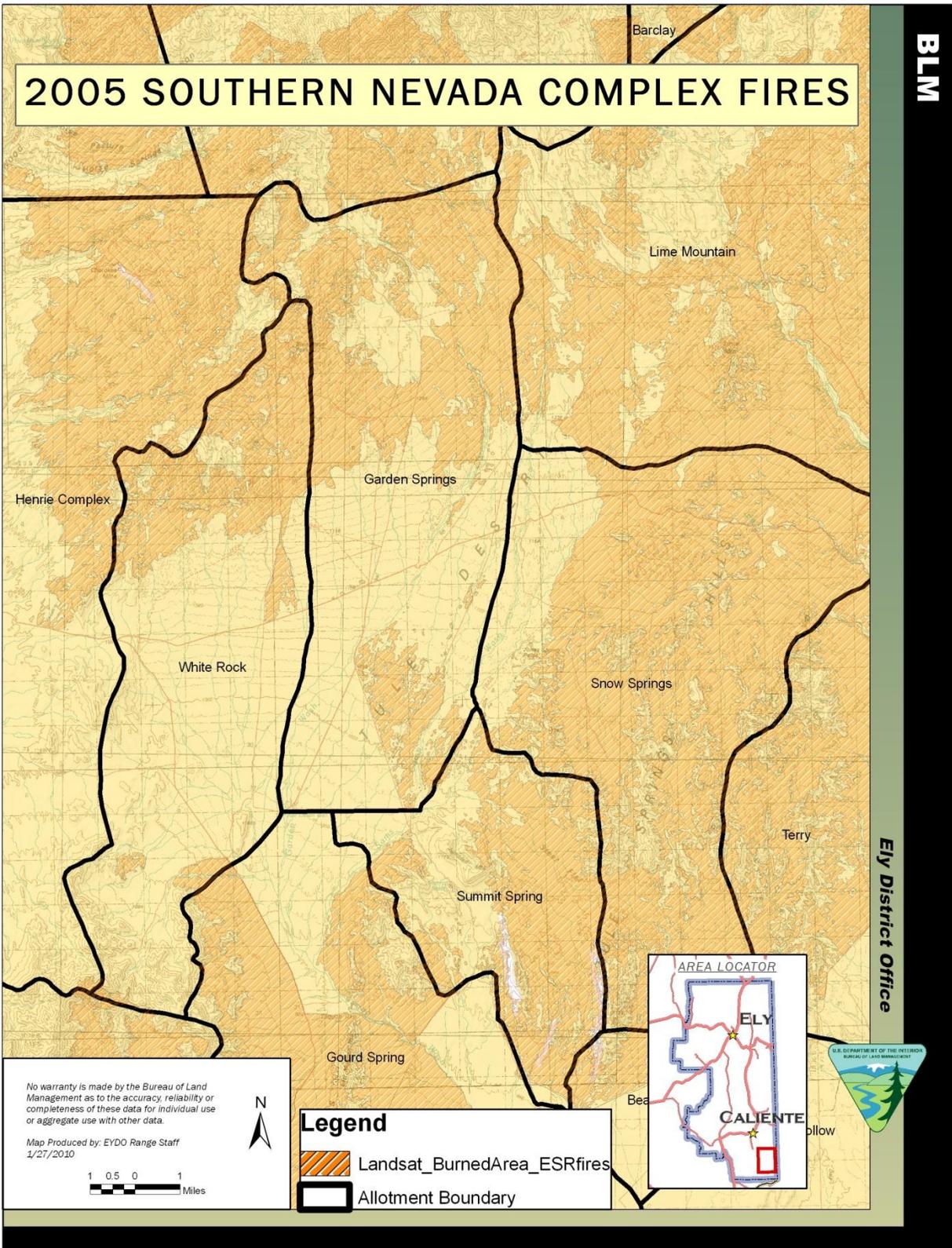
No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual use or aggregate use with other data.

Map Produced by: EYDO Range Staff  
1/27/2010



## Legend

- BLM Wilderness
- Allotment Boundary



**APPENDIX III**  
**TERMS AND CONDITIONS**

In accordance with 43 CFR §4130.3 and §4130.3-2 the following terms and conditions shall be included in the term grazing permit for **Newby Cattle Co. on the Garden Spring, White Rock and Summit Spring allotments:**

Mandatory Terms and Conditions:

Table 11. Permitted Use, Newby Cattle Co. (#2705036)							
Allotment	Acres	Livestock	# of Head	Turn-Out	Removal	Active AUM's	Voluntary Non-Use AUM's
Garden Spring	39,225	Cattle	348	1-Nov	30-Apr	1675	1117
Garden Spring	39,225	Horse	4	1-Nov	30-Apr	19	13
White Rock	32,984	Cattle	361	1-Nov	30-Apr	1738	1158
Summit Spring	17,603	Cattle	90	1-Nov	30-Apr*	433	289

\*This assumes a fence is constructed to protect desert tortoise habitat. Without a fence grazing will end on February 28.

Additional Terms and Conditions:

1. Maximum allowable use levels for plant functional groups will be as follows:  
40 percent of annual growth of grasses, forbs and shrubs from March 1 to October 31. 50 percent of current year's growth on perennial grasses and 45 percent of current year's growth on shrubs and forbs from November 1 to February 28. Livestock will be 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 will require authorization from the Authorized Officer.
2. 40 percent of AUMS will be placed into voluntarily non-use for fuels management purposes, while the remaining 60 percent will remain in Active Use. This leaves 1693, 1738, and 433 AUM's in Active Use in the Garden Spring, White Rock, and Summit Spring allotments, respectively. This would place 1130, 1158, and 289 AUM's in voluntary non-use for a period of 10 years in the Garden Spring, White Rock and Summit Spring allotments, respectively. Voluntary non-use of AUM's is for fuels management purposes and is not a permanent revocation of grazing privileges.
3. Voluntarily non-use AUM's may be re-instated as Active AUM's on an annual basis as resource conditions dictate. Voluntarily non-use AUM's (1130, 1158, and 289 AUM's in the Garden Spring, White Rock and Summit Spring allotments, respectively) will be available on an ANNUAL BASIS if resource conditions require reduction of fine fuels buildup. These AUM's will show as a line item on the permit that will allow for their use in years that require fine fuels reduction. Annual use of any AUM's in voluntary non-use must be evaluated by the ID Team and approved by the Authorizing Officer.
4. For Summit Spring the season of use will be reduced to 11/1-2/28 until a fence is constructed separating the desert tortoise critical habitat. Once a fence is constructed, grazing can occur

from 11/1-4/30 over the remaining portion of the allotment which is not desert tortoise critical habitat.

5. To improve livestock distribution the placement of mineral blocks or salt blocks will be a minimum distance of ½ mile from water sources, riparian areas, sensitive sites, and cultural resource sites.
6. Cattle will continue to be rotated throughout the allotment by providing water at different locations at different times. This includes the use of wells, reservoirs, spring developments, and water hauls.
7. Use in the Garden Spring, White Rock and Summit Spring allotments will be in accordance with the Mojave-Southern Great Basin Area Standards and Guidelines.
8. No motorized access is permitted within the designated Mormon Mountain or Clover Mountain Wilderness Areas without approval of the field manager. Motorized access may be permitted for emergency situations, or where practical alternatives for reasonable grazing management needs are not available and such motorized use would not have an adverse impact on the natural environment.
9. All vehicles used in desert tortoise habitat associated with livestock grazing, with the exception of range improvements, shall be restricted to existing roads and trails.
10. Tortoise discovered by the permittee to be in imminent danger during routine cattle movement or maintenance activities, may be moved out of harms way by the permittee provided the permittee has received the required training.
11. Use of hay or grains as a feeding supplement shall be prohibited within the grazing allotments to avoid the introduction of non-native plant species. Mineral and salt blocks are authorized subject to 43 CFR section 4130.3-2 (c) and should be placed in previously disturbed areas wherever possible to minimize impacts to desert tortoise and its habitat. Blocks may be placed in areas that have a net benefit to tortoise by distributing livestock more evenly throughout the allotment, and minimizing concentrations of livestock that result in habitat damage.
12. The permittee is required to take action to remove any livestock that move into areas closed to grazing, back into the open acres of the allotment. If straying livestock becomes problematic, the bureau shall take measures to ensure straying is prevented.

Additional Stipulations Common to All Grazing Allotments:

1. Livestock numbers identified in the Term Grazing Permit are a function of seasons of use and permitted use. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations would not prevent attainment of the multiple-use objectives for the allotment.

2. Deviations from specified grazing use dates will be allowed when consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing use.
3. The authorized officer is requiring that an actual use report (form 4130-5) be submitted within 15 days after completing your annual grazing use.
4. Grazing use will be in accordance with the Standards and Guidelines for Grazing Administration. The Standards and Guidelines have been developed by the respective Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR Subpart 4180 - Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.
5. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be reissued subject to revised terms and conditions.
6. Pursuant to 43 CFR 10.4 (G) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
7. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.
8. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.
9. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

## **APPENDIX IV**

### **RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS**

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## **RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS**

### **Newby Cattle Co. Term Permit Renewal Lincoln, Nevada**

On March 22, 2011 a Noxious & Invasive Weed Risk Assessment was completed for Newby Cattle to conduct a term permit renewal in Lincoln County, NV. The proposed action renew the grazing term permit for Ken Newby on the Garden Spring, White Rock and Summit Spring allotments. NEPA level is EA and grazing permit will be for ten years. An EA will be prepared and grazing will be analyzed. The proposed action will allow grazing with the following terms:

Table 11. Permitted Use, Newby Cattle Co. (#2705036)							
Allotment	Acres	Livestock	# of Head	Turn-Out	Removal	Active AUM's	Voluntary Non-Use AUM's
Garden Spring	39,225	Cattle	348	1-Nov	30-Apr	1675	1117
Garden Spring	39,225	Horse	4	1-Nov	30-Apr	19	13
White Rock	32,984	Cattle	361	1-Nov	30-Apr	1738	1158
Summit Spring	17,603	Cattle	90	1-Nov	30-Apr*	433	289

\*This assumes a fence is constructed to protect desert tortoise habitat. Without a fence grazing will end on February 28.

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. The following species are documented within the project area:

<i>Brassica tournefortii</i>	Sahara mustard
<i>Onopordum acanthium</i>	Scotch thistle
<i>Tamarix spp.</i>	Salt cedar

There is also a probability that include a list of undocumented weeds found in the area scattered along roads in the area. The project area was last inventoried for noxious weeds in 2008.

A list of species undocumented in the District follows:

<i>Arctium minus</i>	Common burdock
<i>Bromus rubens</i>	Red brome
<i>Bromus tectorum</i>	Cheatgrass
<i>Ceratocephala testiculata</i>	Bur buttercup
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Erodium cicutarium</i>	Filaree
<i>Halogeton glomeratus</i>	Halogeton
<i>Marrubium vulgare</i>	Horehound
<i>Salsola kali</i>	Russian thistle

*Sysimbrium altissimum*  
*Tragopogon dubius*

Tumble mustard  
 Yellow salsify

**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 (6) at the present time. Currently salt cedar is established in the project area. However, the spread of this species is limited to wet areas. Currently salt cedar can be found in the few wet areas located within the allotments. Further spread is not a concern.

Scotch thistle has also been found within the project area. However, it is not prevalent and is easily identified and can be readily treated using spot treatments. The permittee is aware of this species and understands that it is in the best interest of their operation to remove this species upon detection, as has been done previously.

Sahara mustard is establishing in the region. In this area it was first detected in the south and is moving north following the prevailing winds. Currently it is located in the southern most portion of the Summit Spring allotment. This portion of the allotment has restricted grazing due to desert tortoise habitat. Grazing would occur in this area only when Sahara mustard is undergoing vegetative growth. Cattle are removed before seed production and turn-out is in the early winter. The germination period for Sahara mustard is normally in the early fall and winter months. Seed transport is primarily wind, but also travels by animal and vehicle. Because of Sahara mustard's rapid growth and ability to quickly out compete native plants, control of this species is paramount. Even though the area has been heavily altered due to annual grasses and fire, it still has the ability to support native species. With establishment of Sahara mustard, this ability could be drastically reduced. Because grazing permittees tend to spend more time in this area than anyone else, they can provide valuable monitoring information and detection. Through education, it will be shown to be in the grazing operation's best interest to protect the resource and will be highly motivated to address the spread of Sahara mustard.

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

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

This project rates as High (8) at the present time. This rating is primarily the result of Sahara mustard's ability to outcompete native plants in the Mojave desert region. However, this number is lower because the area has already been altered due to other non-native annuals. These annuals include red brome and cheatgrass and are the species primarily responsible for the altered disturbance regime. Sahara mustard would simply result in a further decrease in native species. The effects of Sahara mustard on wildlife habitat are complex and not completely understood. The growth habit of Sahara mustard in this northern most portion of the Mojave Desert is not fully understood, and it may prove to not be as competitive with cooler temperatures.

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

- Continue to use integrated weed management to treat weed infestations and use principles of integrated pest management to meet management objectives and to reestablish resistant and resilient native vegetation communities.
- Develop weed management plans that address weed vectors, minimize the movement of weeds within public lands, consider disturbance regimes, and address existing weed infestations.
- When manual weed control is conducted, remove the cut weeds and weed parts and dispose of them in a manner designed to kill seeds and weed parts.
- When managing in areas of special status species, carefully consider the impacts of the treatment on such species. Wherever possible, hand spraying of herbicides is preferred over other methods.
- 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.
- All applications of approved pesticides will be conducted only by certified pesticide applicators or by personnel under the direct supervision of a certified applicator.
- Prior to entering public lands, the contractor, operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation of the project. The importance of

preventing the spread of weeds to un-infested areas and importance of controlling existing populations of weeds will be explained.

Reviewed by: \_\_\_\_\_

Cameron Boyce  
Caliente Field Office Noxious & Invasive Weeds  
Coordinator

\_\_\_\_\_ Date



STANDARD TERMS AND CONDITIONS

In accordance with 43 CFR §4130.3 and §4130.3-2 the following terms and conditions shall be included in the term grazing permit for **Newby Cattle Co. on the Garden Spring, White Rock and Summit Spring allotments:**

Mandatory Terms and Conditions:

Table 11. Permitted Use, Newby Cattle Co. (#2705036)							
Allotment	Acres	Livestock	# of Head	Turn-Out	Removal	Active AUM's	Voluntary Non-Use AUM's
Garden Spring	39,225	Cattle	348	1-Nov	30-Apr	1675	1117
Garden Spring	39,225	Horse	4	1-Nov	30-Apr	19	13
White Rock	32,984	Cattle	361	1-Nov	30-Apr	1738	1158
Summit Spring	17,603	Cattle	90	1-Nov	30-Apr*	433	289

\*This assumes a fence is constructed to protect desert tortoise habitat. Without a fence grazing will end on February 28.

Additional Terms and Conditions:

13. Maximum allowable use levels for plant functional groups will be as follows:  
 40 percent of annual growth of grasses, forbs and shrubs from March 1 to October 31; 50 percent of current year's growth on perennial grasses and 45 percent of current year's growth on shrubs and forbs from November 1 to February 28. Livestock will be 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 will require authorization from the Authorized Officer.
  
14. 40 percent of AUMS will be placed into voluntarily non-use for fuels management purposes, while the remaining 60 percent will remain in Active Use. This leaves 1693, 1738, and 433 AUM's in Active Use in the Garden Spring, White Rock, and Summit Spring allotments, respectively. This would place 1130, 1158, and 289 AUM's in voluntary non-use for a period of 10 years in the Garden Spring, White Rock and Summit Spring allotments, respectively. Voluntary non-use of AUM's is for fuels management purposes and is not a permanent revocation of grazing privileges.
  
15. Voluntarily non-use AUM's may be re-instated as Active AUM's on an annual basis as resource conditions dictate. Voluntarily non-use AUM's (1130, 1158, and 289 AUM's in the Garden Spring, White Rock and Summit Spring allotments, respectively) will be available on an ANNUAL BASIS if resource conditions require reduction of fine fuels buildup. These AUM's will show as a line item on the permit that will allow for their use in years that require fine fuels reduction. Annual use of any AUM's in voluntary non-use must be evaluated by the ID Team and approved by the Authorizing Officer.

16. For Summit Spring the season of use will be reduced to 11/1-2/28 until a fence is constructed separating the desert tortoise critical habitat. Once a fence is constructed, grazing can occur from 11/1-4/30 over the remaining portion of the allotment which is not desert tortoise critical habitat.
17. To improve livestock distribution the placement of mineral blocks or salt blocks will be a minimum distance of ½ mile from water sources, riparian areas, sensitive sites, and cultural resource sites.
18. Cattle will continue to be rotated throughout the allotment by providing water at different locations at different times. This includes the use of wells, reservoirs, spring developments, and water hauls.
19. Use in the Garden Spring, White Rock and Summit Spring allotments will be in accordance with the Mojave-Southern Great Basin Area Standards and Guidelines.
20. No motorized access is permitted within the designated Mormon Mountain or Clover Mountain Wilderness Areas without approval of the field manager. Motorized access may be permitted for emergency situations, or where practical alternatives for reasonable grazing management needs are not available and such motorized use would not have an adverse impact on the natural environment.
21. All vehicles used in desert tortoise habitat associated with livestock grazing, with the exception of range improvements, shall be restricted to existing roads and trails.
22. Tortoise discovered by the permittee to be in imminent danger during routine cattle movement or maintenance activities, may be moved out of harms way by the permittee provided the permittee has received the required training.
23. Use of hay or grains as a feeding supplement shall be prohibited within the grazing allotments to avoid the introduction of non-native plant species. Mineral and salt blocks are authorized subject to 43 CFR section 4130.3-2 (c) and should be placed in previously disturbed areas wherever possible to minimize impacts to desert tortoise and its habitat. Blocks may be placed in areas that have a net benefit to tortoise by distributing livestock more evenly throughout the allotment, and minimizing concentrations of livestock that result in habitat damage.
24. The permittee is required to take action to remove any livestock that move into areas closed to grazing, back into the open acres of the allotment. If straying livestock becomes problematic, the bureau shall take measures to ensure straying is prevented.

Additional Stipulations Common to All Grazing Allotments:

10. Livestock numbers identified in the Term Grazing Permit are a function of seasons of use and permitted use. Deviations from those livestock numbers and seasons of use may be

authorized on an annual basis where such deviations would not prevent attainment of the multiple-use objectives for the allotment.

11. Deviations from specified grazing use dates will be allowed when consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing use.
  12. The authorized officer is requiring that an actual use report (form 4130-5) be submitted within 15 days after completing your annual grazing use.
  13. Grazing use will be in accordance with the Standards and Guidelines for Grazing Administration. The Standards and Guidelines have been developed by the respective Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR Subpart 4180 - Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.
  14. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be reissued subject to revised terms and conditions.
  15. Pursuant to 43 CFR 10.4 (G) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
  16. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.
  17. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.
  18. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.
1. Livestock numbers identified in the term grazing permit are a function of seasons of use and permitted use for each allotment. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations would not prevent attainment of the multiple-use objectives for the 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. Pursuant to 43 CFR 10.4 (G) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
5. Grazing use will be in accordance with the great basin area 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.
6. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be re-issued subject to revised terms and conditions.
7. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.
8. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.
9. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.
10. The placement of mineral or salt supplements will be a minimum distance of ½ mile from known water sources, riparian areas, winterfat dominated sites, sensitive sites, populations of special status plant species, and cultural resource sites. Mineral and salt supplements will also be one mile from active sage-grouse leks. Placing supplemental feed (i.e. hay, grain, pellets, etc.) on public lands without authorization is prohibited.

**APPENDIX IV**  
(EA)

WEED RISK ASSESSMENT

**RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS**

**Newby Cattle Co. Term Permit Renewal  
Lincoln, Nevada**

On March 22, 2011 a Noxious & Invasive Weed Risk Assessment was completed for Newby Cattle to conduct a term permit renewal in Lincoln County, NV. The proposed action renew the grazing term permit for Ken Newby on the Garden Spring, White Rock and Summit Spring allotments. NEPA level is EA and grazing permit will be for ten years. An EA will be prepared and grazing will be analyzed. The proposed action will allow grazing with the following terms:

<b>Table 11. Permitted Use, Newby Cattle Co. (#2705036)</b>							
<b>Allotment</b>	<b>Acres</b>	<b>Livestock</b>	<b># of Head</b>	<b>Turn-Out</b>	<b>Removal</b>	<b>Active AUM's</b>	<b>Voluntary Non-Use AUM's</b>
Garden Spring	39,225	Cattle	348	1-Nov	30-Apr	1675	1117
Garden Spring	39,225	Horse	4	1-Nov	30-Apr	19	13
White Rock	32,984	Cattle	361	1-Nov	30-Apr	1738	1158
Summit Spring	17,603	Cattle	90	1-Nov	30-Apr*	433	289

\*This assumes a fence is constructed to protect desert tortoise habitat. Without a fence grazing will end on February 28.

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. The following species are documented within the project area:

<i>Brassica tournefortii</i>	Sahara mustard
<i>Onopordumacanthium</i>	Scotch thistle
<i>Tamarix spp.</i>	Salt cedar

There is also a probability that include a list of undocumented weeds found in the area scattered along roads in the area. The project area was last inventoried for noxious weeds in 2008.

A list of species undocumented in the District follows:

<i>Arctium minus</i>	Common burdock
<i>Bromusrubens</i>	Red brome
<i>Bromustectorum</i>	Cheatgrass
<i>Ceratocephalatesticulata</i>	Bur buttercup
<i>Elaeagnusangustifolia</i>	Russian olive
<i>Erodiumcicutarium</i>	Filaree
<i>Halogetonglomeratus</i>	Halogeton
<i>Marrubiumvulgare</i>	Horehound
<i>Salsola kali</i>	Russian thistle
<i>Sysimbriumaltissimum</i>	Tumble mustard
<i>Tragopogondubius</i>	Yellow salsify

**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.
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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 (6) at the present time. Currently salt cedar is established in the project area. However, the spread of this species is limited to wet areas. Currently salt cedar can be found in the few wet areas located within the allotments. Further spread is not a concern.

Scotch thistle has also been found within the project area. However, it is not prevalent and is easily identified and can be readily treated using spot treatments. The permittee is aware of this species and understands that it is in the best interest of their operation to remove this species upon detection, as has been done previously.

Sahara mustard is establishing in the region. In this area it was first detected in the south and is moving north following the prevailing winds. Currently it is located in the southern most portion of the Summit Spring allotment. This portion of the allotment has restricted grazing due to desert tortoise habitat. Grazing would occur in this area only when Sahara mustard is undergoing vegetative growth. Cattle are removed before seed production and turn-out is in the early winter. The germination period for Sahara mustard is normally in the early fall and winter months. Seed transport is primarily wind, but also travels by animal and vehicle. Because of Sahara mustard's rapid growth and ability to quickly out compete native plants, control of this species is paramount. Even though the area has been heavily altered due to annual grasses and fire, it still has the ability to support native species. With establishment of Sahara mustard, this ability could be drastically reduced. Because grazing permittees tend to spend more time in this area than anyone else, they can provide valuable monitoring information and detection. Through education, it will be shown to be in the grazing operation's best interest to protect the resource and will be highly motivated to address the spread of Sahara mustard.

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

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

This project rates as High (8) at the present time. This rating is primarily the result of Sahara mustard's ability to outcompete native plants in the Mojave desert region. However, this number is lower because the area has already been altered due to other non-native annuals. These annuals include red brome and cheatgrass and are the species primarily responsible for the altered disturbance regime. Sahara mustard would simply result in a further decrease in native species. The effects of Sahara mustard on wildlife habitat are complex and not completely

understood. The growth habit of Sahara mustard in this northern most portion of the Mojave Desert is not fully understood, and it may prove to not be as competitive with cooler temperatures.

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

- Continue to use integrated weed management to treat weed infestations and use principles of integrated pest management to meet management objectives and to reestablish resistant and resilient native vegetation communities.
- Develop weed management plans that address weed vectors, minimize the movement of weeds within public lands, consider disturbance regimes, and address existing weed infestations.
- When manual weed control is conducted, remove the cut weeds and weed parts and dispose of them in a manner designed to kill seeds and weed parts.
- When managing in areas of special status species, carefully consider the impacts of the treatment on such species. Wherever possible, hand spraying of herbicides is preferred over other methods.
- 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.
- All applications of approved pesticides will be conducted only by certified pesticide applicators or by personnel under the direct supervision of a certified applicator.
- Prior to entering public lands, the contractor, operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation of the project. The importance of preventing the spread of weeds to un-infested areas and importance of controlling existing populations of weeds will be explained.

Reviewed by: \_\_\_\_\_

Cameron Boyce  
Caliente Field Office Noxious & Invasive Weeds

\_\_\_\_\_ Date



## APPENDIX V (EA)

### Congressional Grazing Guidelines (Excerpt from House Report 96-1126)

#### Grazing in National Forest Wilderness Areas

Section 4(d)(4)(2) of the Wilderness Act states: "the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture."

The legislative history of this language is very clear in its intent that livestock grazing, and activities and the necessary facilities to support a livestock grazing program, will be permitted to continue in National Forest wilderness areas, when such grazing was established prior to classification of an area as wilderness.

Including those areas established in the Wilderness Act of 1964. Congress has designated some 188 areas, covering lands administered by the Forest Service, Fish and Wildlife Service, National Park Service and Bureau of Land Management as components of the National Wilderness Preservation System. A number of these areas contain active grazing programs, which are conducted pursuant to existing authorities. In all such cases, when enacting legislation classifying an area as wilderness, it has been the intent of the Congress, based on solid evidence developed by testimony at public hearings, that the practical language of the Wilderness Act would apply to grazing within wilderness areas administered by all Federal agencies, not just the Forest Service. In fact, special language appears in all wilderness legislation, the intent of which is to assure that the applicable provisions of the Wilderness Act, including Section 4(d)(4)(2), will apply to all wilderness areas, regardless of agency jurisdiction.

Further, during the 95th Congress, Congressional committees became increasingly disturbed that, despite the language of section 4(d)(4)(2) of the Wilderness Act and despite a history of nearly 15 years in addressing and providing guidance to the wilderness management agencies for development of wilderness management policies, National Forest administrative regulations and policies were acting to discourage grazing in wilderness, or unduly restricting on-the-ground activities necessary for proper grazing management. To address this problem, two House Committee on Interior and Insular Affairs Reports (95-620 and 95- 1821) specifically provided guidance as to how section 4(d)(4)(2) of the Wilderness Act should be interpreted. This guidance appeared in these reports as follows:

Section 4(d)(4)(2) of the Wilderness Act states that grazing in wilderness areas, if established prior to designation of the area as wilderness, "shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture". To clarify any lingering doubts, the committee wishes to stress that this language means that there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness. As stated in the Forest Service regulations (36 CFR 293.7), grazing in wilderness

areas ordinarily will be controlled under the general regulations governing grazing of livestock on National Forests\* \* \*. This includes the establishment of normal range allotments and allotment management plans. Furthermore, wilderness designation should not prevent the maintenance of existing fences or other livestock management improvements, nor the construction and maintenance of new fences or improvements which are consistent with allotment management plans and/or which are necessary for the protection of the range.

Despite the language of these two reports, RARE II hearings and field inspection trips in the 96 Congress have revealed that National Forest administrative policies on grazing in wilderness are subject to varying interpretations in the field, and are fraught with pronouncements that simply are not in accordance with section 4(d)(4)(2) of the Wilderness Act. This had led to demands on the part of grazing permittees that section 4(d)(4)(2) of the Wilderness Act be amended to clarify the intentions of Congress. However, because of the great diversity of conditions under which grazing uses (including different classes of livestock) are managed on the public lands, the Conferees feel that the original broad language of the Wilderness Act is best left unchanged. Any attempts to draft specific statutory language covering grazing in the entire wilderness system (presently administered by four separate agencies in two different Departments) might prove to be unduly rigid in a specific area, and deprive the land management agencies of flexible opportunities to manage grazing in a creative and realistic site specific fashion.

Therefore, the conferees declined to amend section 4(d)(4)(2) of the Wilderness Act, agreeing instead to reaffirm the existing language and to include the following nationwide guidelines and specific statements of legislative policy. It is the intention of the conferees that the guidelines and policies be considered in the overall context of the purposes and direction of the Wilderness Act of 1964 and this Act, and that they be promptly, fully, and diligently implemented and made available to Forest Service personnel at all levels and to all holders of permits for grazing in National Forest Wilderness areas:

1. There shall be no curtailments of grazing in wilderness areas simply because an area is, or has been designated as wilderness, nor should wilderness designations be used as an excuse by administrators to slowly "phase out" grazing. Any adjustments in the numbers of livestock permitted to graze in wilderness areas should be made as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, range condition, and the protection of the range resource from deterioration.

It is anticipated that the numbers of livestock permitted to graze in wilderness would remain at the approximate levels existing at the time an area enters the wilderness system. If land management plans reveal conclusively that increased livestock numbers or animal unit months (AUMs) could be made available with no adverse impact on wilderness values such as plant communities, primitive recreation, and wildlife populations or habitat, some increases in AUMs may be permissible. This is not to imply, however, that wilderness lends itself to AUM or livestock increases and construction of substantial new facilities that might be appropriate for intensive grazing management in non-wilderness areas.

2. The maintenance of supporting facilities, existing in the area prior to its classification as wilderness (including fences, line cabins, water wells and lines, stock tanks, etc.), is permissible in wilderness.

Where practical alternatives do not exist, maintenance or other activities may be accomplished through the occasional use of motorized equipment. This may include, for example, the use of backhoes to maintain stock ponds, pickup trucks for major fence repairs, or specialized equipment to repair stock watering facilities. Such occasional use of motorized equipment should be expressly authorized in the grazing permits for the area involved. The use of motorized equipment should be based on a rule of practical necessity and reasonableness. For example, motorized equipment need not be allowed for the placement of small quantities of salt or other activities where such activities can reasonably and practically be accomplished on horseback or foot. On the other hand, it may be appropriate to permit the occasional use of motorized equipment to haul large quantities of salt to distribution points. Moreover, under the rule of reasonableness, occasional use of motorized equipment should be permitted where practical alternatives are not available and such use would not have a significant adverse impact on the natural environment. Such motorized equipment uses will normally only be permitted to those portions of a wilderness area where they had occurred prior to the area's designation as wilderness or are established by prior agreement.

3. The placement or reconstruction of deteriorated facilities or improvements should not be required to be accomplished using "natural materials", unless the material and labor costs of using natural materials are such that their use would not impose unreasonable additional costs on grazing permittees.
4. The construction of new improvements or replacement of deteriorated facilities wilderness is permissible if in accordance with those guidelines and management plans governing the area involved. However, the construction of new improvements should be primarily for the purpose of resource protection and the more effective management of these resources rather than to accommodate increased numbers of livestock.
5. The use of motorized equipment for emergency purposes such as rescuing sick animals or the placement of feed in emergency situations is also permissible. This privilege is to be exercised only in true emergencies, and should not be abused by permittees.

In summary, subject to the conditions and policies outlined above, the general rule of thumb on grazing management in wilderness should be that activities or facilities established prior to the date of an area's designation as wilderness should be allowed to remain in place and may be replaced when necessary for the permittee to properly administer the grazing program. Thus, if livestock grazing activities and facilities were established in an area at the time Congress determined that the area was suitable for wilderness and placed the specific area in the wilderness system, they should be allowed to continue. With respect to areas designated as wilderness prior to the date of this Act, these guidelines shall not be considered as a direction to re-establish uses where such uses have been discontinued.

It is also the understanding of the conferees that the authorizing Committees intend to closely monitor the implementation of the guidelines through subsequent oversight hearings to insure that the spirit, as well as the letter, of the guidelines is adhered to by the Forest Service. Of course, the inclusion of these guidelines in this joint Statement of Managers does not preclude the Congress from dealing with the issue of grazing in wilderness areas statutorily in the future.



**APPENDIX V**  
(EA)

MIGRATORY BIRDS

According to the Ely RMP and the Nevada Natural Heritage Database, the following species may occur within the project area. **Highlighted species are BLM sensitive species in Nevada.**

### **White Rock Allotment**

Desert tortoise (*Gopherus agassizii*) federally threatened

**Desert bighorn sheep (*Ovis canadensis nelsoni*)**

Mule deer (*Odocoileus hemionus*) general habitat

The allotment contains two small wildlife water developments for upland game birds.

The allotment is within hunt unit 271 and 242.

The following data reflect survey blocks and/or incidental sightings of bird species within the project area from the Atlas of the Breeding Birds of Nevada (Floyd et al. 2007).

These data represent birds that were confirmed, probably, or possibly breeding within the project area. These data are not comprehensive, and additional species not listed here may be present within the project area.

No survey blocks or incidental sightings occur within in this allotment. Survey blocks with similar vegetation as this allotment contained the following bird species:

**Golden eagle (*Aquila chrysaetos*)**

Turkey vulture (*Cathartes aura*)

Red-tailed hawk (*Buteo jamaicensis*)

**Prairie falcon (*Falco mexicanus*)**

Mourning dove (*Zenaidura macroura*)

Common raven (*Corvus corax*)

Cactus wren (*Campylorhynchus brunneicapillus*)

**Loggerhead shrike (*Lanius ludovicianus*)**

Black-throated sparrow (*Amphispiza bilineata*)

Brewer's sparrow (*Spizella breweri*)

Northern rough-winged swallow (*Stelgidopteryx serripennis*)

Wilson's warbler (*Wilsonia pusilla*)

Costa's hummingbird (*Calypte costae*)

Ash-throated flycatcher (*Myiarchus cinerascens*)

Say's phoebe (*Sayornis saya*)

Black-tailed gnatcatcher (*Poliophtila melanura*)

**Phainopepla (*Phainopepla nitens*)**

Verdin (*Auriparus flaviceps*)

Lesser goldfinch (*Carduelis psaltria*)

Orange-crowned warbler (*Vermivora celata*)

Ruby-crowned kinglet (*Regulus calendula*)

Song sparrow (*Melospiza melodia*)

House finch (*Carpodacus mexicanus*)

### **Garden Springs Allotment**

Desert tortoise (*Gopherus agassizii*) federally threatened

**Desert bighorn sheep (*Ovis canadensis nelsoni*)**

Mule deer (*Odocoileus hemionus*) general habitat and crucial summer habitat

The allotment is within hunt unit 271 and 242.

The following data reflect survey blocks and/or incidental sightings of bird species within the project area from the Atlas of the Breeding Birds of Nevada (Floyd et al. 2007).

These data represent birds that were confirmed, probably, or possibly breeding within the project area. These data are not comprehensive, and additional species not listed here may be present within the project area.

No survey blocks or incidental sightings occur within in this allotment. Survey blocks with similar vegetation as this allotment contained the following bird species:

Golden eagle (*Aquila chrysaetos*)

Turkey vulture (*Cathartes aura*)

Red-tailed hawk (*Buteojamaicensis*)

Merlin (*Falco columbarius*)

Rough-legged hawk (*Buteolagopus*)

Band-tailed pigeon (*Columba fasciata*)

Mourning dove (*Zenaidamacroua*)

Common raven (*Corvuscorax*)

Cactus wren (*Campylorhynchusbrunneicapillus*)

Loggerhead shrike (*Laniusludovicianus*)

Black-throated sparrow (*Amphispizabilineata*)

Brewer's sparrow (*Spizellabreweri*)

Northern rough-winged swallow (*Stelgidopteryxserripennis*)

Wilson's warbler (*Wilsoniapusilla*)

Costa's hummingbird (*Calypte costae*)

Ash-throated flycatcher (*Myiarchuscinerascens*)

Say's phoebe (*Sayornissaya*)

Black-tailed gnatcatcher (*Polioptilamelanura*)

Phainopepla (*Phainopeplanitens*)

Verdin (*Auriparusflaviceps*)

House finch (*Carpodacusmexicanus*)

### **Summit Spring Allotment**

Desert tortoise (*Gopherusagassizii*) federally threatened; contains a portion of the Beaver Dam Slope critical habitat unit

Desert bighorn sheep (*Oviscanadensisnelsoni*)

The allotment is within hunt unit 271.

The following data reflect survey blocks and/or incidental sightings of bird species within the project area from the Atlas of the Breeding Birds of Nevada (Floyd et al. 2007).

These data represent birds that were confirmed, probably, or possibly breeding within the project area. These data are not comprehensive, and additional species not listed here may be present within the project area.

Golden eagle (*Aquila chrysaetos*)

Prairie falcon (*Falco mexicanus*)

Turkey vulture (*Cathartes aura*)

Red-tailed hawk (*Buteojamaicensis*)

Mourning dove (*Zenaidamacroua*)

Common raven (*Corvuscorax*)  
Cactus wren (*Campylorhynchusbrunneicapillus*)  
Loggerhead shrike (*Laniusludovicianus*)  
Black-throated sparrow (*Amphispizabilineata*)  
Brewer's sparrow (*Spizellabreweri*)  
Northern rough-winged swallow (*Stelgidopteryxserripennis*)  
Wilson's warbler (*Wilsoniapusilla*)  
Costa's hummingbird (*Calypte costae*)  
Ash-throated flycatcher (*Myiarchuscinerascens*)  
Say's phoebe (*Sayornissaya*)  
Black-tailed gnatcatcher (*Polioptilamelanura*)  
Phainopepla (*Phainopeplanitens*)  
Verdin (*Auriparusflaviceps*)  
House finch (*Carpodacusmexicanus*)

### **Works Cited**

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