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

Preliminary **Environmental Assessment**

DOI-BLM-NV-L030-2013-0003-EA

Grazing Permit Renewal
For Authorizations
#2703753 and #275108
on the
Gourd Spring Allotment (#01071)

July 18, 2014

Lincoln County, Nevada

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BLM

1.0 Introduction

This document identifies issues, analyzes alternatives, and discloses the potential environmental impacts associated with the proposed term grazing permit renewals for authorization numbers 2703753 and 275108 on the Gourd Spring Allotment (#01071)

1.1 Background

The Gourd Spring Allotment, a land based allotment having two permittees, is located in southern Lincoln County, Nevada. It is approximately 50 miles south of Caliente, Nevada and approximately 10 miles west of Mesquite, Nevada (Appendix A, Map #1). It is located within the Toquop Wash, Garden Wash and Halfway Wash/Virgin River Watersheds, and is approximately 97,700 acres in size. Cattle and horses are the types of livestock grazed on the allotment. Elevations range from approximately 5,300 feet in the East Mormon Mountains to approximately 2,400 feet along the east boundary.

Neither the allotment nor any of its portions are located within a Wild Horse Herd Management Area (HMA) or Wilderness Study Area. However, the west portion (Approximately 12,900 acres) of the allotment is in the Mormon Mountains wilderness. The allotment also contains habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*) (Appendix A, Map #2) and U.S. Fish and Wildlife Service (USFWS) designated desert tortoise critical habitat (approximately 3,000 acres). Approximately 40,000 acres of the allotment were removed from grazing with the creation of desert tortoise Areas of Critical Environmental Concern (ACEC) in the year 2000.

No formal grazing system exists within the allotment. Current management practices are a reflection of Best Management Practices (BMPs) as coordinated between the permittee and the appropriate Bureau of Land Management (BLM) Range Management Specialist.

Allotment General Location:

T.11S, R 70E, Mount Diablo Base and Meridian (MDBM), many sections
T.10, 11, 12S, R 69E, MDBM, many sections
T.10, 11, 12S, R 68E, MDBM, many sections

1.2 Introduction of the Proposed Action.

The BLM, Caliente Field Office, proposes to renew the aforementioned term grazing permits on the Gourd Spring Allotment.

Standards and Guidelines for Grazing Administration were developed by the Mojave-Southern Great Basin Resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997.

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 Gourd Spring Allotment. 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 2013 (Appendix II).

Changes to grazing management are recommended which would establish Best Management Practices (BMPs) within the allotment. Such BMPs would assist in maintaining/meeting the Standards. A summary of the RAC Standards assessment is found in Table 1.2, below.

Table 1.2 Summary of Assessment of the Mojave-Southern Great Basin Area Standards for the Gourd Spring Allotment.

Standard	Status
1. Soils	Not Achieved*
2. Riparian and Wetland Sites Standard	Upland portion – Not Achieved* Riparian Portion – Not Applicable
3. Habitat and Biota Standard	Not Achieved*

*The analysis indicated that the reasons for not meeting the standard are due to other factors. In this case the factor is fires.

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) (1976) 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 permits for authorization numbers 2703753 and 275108 on the Gourd Spring Allotment (#01071) while introducing BMPs – along with specific (mandatory) terms and conditions – directed toward achieving and/or maintaining the applicable Standards and Guidelines for Grazing Administration.

An additional need for the Proposed Action is to introduce range improvements, such as additional watering locations and permanent fencing, designed to promote livestock distribution and allow for rotational grazing while reducing the potential for negative grazing impacts on the soil and plant resource.

1.3.1 Objectives for the Proposed Action.

- To renew the term grazing permits for authorization numbers 2703753 and 275108; while authorizing grazing in accordance with applicable laws, regulations, and land use plans (LUPs) on approximately 57,700 acres of public land.

- To improve/maintain vegetative health and growth conditions on the allotment while either making progress toward or maintaining achievement of the Standards and

Guidelines for rangeland health as approved and published by Mojave-Southern Great Basin RAC.

1.4 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-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." We are currently conducting consultation under section 7 of the Endangered Species Act with USFWS, which will update the 2008 Biological Opinion.

1.5 Relationship to Other Plans

The proposed action was analyzed within the scope of the *Revised Recovery Plan for the Mojave Population of the Desert Tortoise* (*Gopherus agassizii*) (2011) and found to be in conformance.

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."

1.6 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:

- State Protocol Agreement between the BLM, Nevada and the Nevada State Historic Preservation Office (October 26, 2009)
- National Historic Preservation Act (1966) (Public Law 89-665; 16 U.S.C. 470 as amended through 2000)
- Archaeological Resources Protection Act (ARPA) (1979)
- 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)
- Bald and Golden Eagle Protection Act (1940 as amended)
- Memorandum of Understanding between the BLM and the U.S. Fish and Wildlife Service To Promote the Conservation of Migratory Birds (2010)
- The National Environmental Policy Act (1969) (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994)
- The Federal Land Policy and Management Act (1976) (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996)
- Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (12 February 1997).
- Endangered Species Act (ESA) (1973).

1.7 Tiering

This document is tiered to the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (Ely PRMP/FEIS, Volumes I and II) (November 2007).

1.8 Relevant Issues and Internal Scoping/Public Scoping.

On April 2, 2013 a BLM internal meeting was held in coordination between the Caliente Field Office and the Ely BLM District Office. The term permit renewal proposal for authorization numbers 2703753 and 275108 was presented and scoped by resource specialists to identify any relevant issues. Issues were identified by both, the staff wildlife biologist and archaeologist, which were addressed.

On April 18, 2013 a meeting was held with the permittees on the Gourd Spring Allotment to discuss and identify range improvements needed on the allotment. These improvements are now part of proposed action and will be analyzed in this document.

On August 19, 2013 a hard copy of the Standard Determination Document (SDD) was mailed to all interested publics who had expressed an interest in grazing permit renewals during the 2013 calendar year. Comments to the SDD were received by the Nevada Department of Wildlife. The department was supportive of livestock management actions intended to improve overall ecosystem functions, although they were "unsure of the degree to which this tool can be effective in and of itself."

Comments were also received by Resource Concepts, Inc. They expressed that they were aware of the difficulty of establishing native perennial vegetation in the Mojave Desert following wildfires. They also noted the opportunity and value of test plots to evaluate selected desert adapted species (native and non-native); the installation of green strips as a viable option to restrict the movement of wildfire; and, that grazing is "the only practical tool currently in use to address unprecedented fuel loading before fire occurs in the Mojave Desert ecosystem." They further stated that "grazing is a sound and proven tool to reduce biomass, thereby lessening the potential for major wildfire."

2.0 Alternatives Including the Proposed Action

2.1 Proposed Action

The BLM, Caliente Field Office, proposes to fully process the term grazing permits for authorization numbers 275108 and 2703753 on the Gourd Spring Allotment (#01071).

The Proposed Action is to maintain current permitted use for each permittee. No change in the season of use would be implemented. The season of use would remain 10-1 to 5-31.

There has been concern regarding the possibility of an unusually high moisture year and the resulting influx of annual grasses, to address this we have analyzed the allotment for use of "temporary nonrenewable forage" in the amount of 25% above the permitted AUMs (§ 4110.3-1 (a)), if resource conditions require reduction of fine fuels buildup. Annual use of any AUMs for

temporary nonrenewable must be evaluated by the ID Team and approved by the Authorized Officer. There will be triggers initiating the use of temporary nonrenewable forage, which may include precipitation amounts and/or pounds/acre or forage (photo cards are currently being developed to evaluate forage production), with grazing authorizations being based on annual forage availability.

The Proposed Action would also add other terms and conditions (BMPs) to the permit that would aid in maintaining the Mojave-Southern Great Basin Standards: Allowable utilization levels would be adjusted to not exceed 40% use on key shrub, forb and perennial grasses species. No other changes to the permits would be made.

The fence which was built after the 2005 fires (along the Carp/Elgin road) would be converted to a permanent range improvement and maintenance responsibility would be given to the permittees. This fence would provide an additional pasture which would help in livestock control. There is a need for gap fences along the southwest allotment boundary to be maintained /rebuilt to control livestock movement through the mountains along the allotment boundary.

An extension to the Sam's Camp pipe line at the Toquop Gap corrals would be installed which would supply water to various locations on the east side of the East Mormon Mountains in the vicinity of Toquop gap. This pipeline would be on the surface except where crossing roads, the wash and within 30 feet of the troughs, the ground disturbance would be about 200 yards, this pipeline will be about two miles long. The addition of dependable water on the east side of the mountains would contribute to the distribution of livestock (Map 1).

A holding tank would be installed at the Horse Spring Water haul site in section 14, T 11S. R 68E. (outside wilderness). This holding tank would help reduce the number of truck trips made to the existing water troughs, reducing the potential for tortoise encounters and road damage.

In 2007, there were several temporary water haul locations designated to assist in livestock distribution. These would be converted to permanent water hauls to be used in coordination with other watering locations on the allotment to assist in livestock management and distribution.

A livestock water development (catchment or guzzler) would be installed in the southwest portion of the allotment east of the Carp/Elgin road and west of the East Mormon Mountains (section 31 T. 11S R. 69 E). This water development would collect rain and snow water from approximately 5,000 square feet of apron and store in a 20,000 gallon tank to supply needed water in this area for livestock and wildlife. The apron will be fenced to exclude animals.

In addition, water hauling would be limited to existing roads; the placement of salt would not be allowed closer than one-half mile from any water source, unless authorized for specific ecological purposes; and the permittee would be required to install wildlife escape ramps in all watering troughs. Furthermore, with coordination of the BLM, water hauling locations will be used in a manner which will yield better livestock management within the allotment.

All current range improvements needed for livestock management on the allotment will be maintained to standards.

Several five-acre experimental plots would also be established, some fenced to exclude grazing and others unfenced, and seeded to determine if rehabilitation of the Mojave ecosystem can be accomplished post fire. This would include native and non-native species with potential to restore ecological function to the areas which have been burned, an appropriate seed mix would be chosen by an Inter-Disciplinary Team (IDT). The objectives of the experimental seedings would be to help restore thermal cover for desert tortoise, habitat enhancement for small wildlife and nutrient cycling for the desert soils. These seedings would provide valuable information which could be used in other areas of the Mojave Desert that have burned and help move the ecosystem in the direction of meeting/achieving the BLM's Resource Advisory Council (RAC) standards.

Planting of fire resistant "green strips," at strategic locations throughout the allotment outside wilderness, could also be implemented to help in the management of future fires in the Mojave Desert. Fuel Break projects are being analyzed in the Tule-Toquop Watershed Assessment (2014).

2.1.1 Current Permits

Table 2.1.1, below, displays the mandatory terms and conditions for the current term grazing permits for authorization numbers 2703753 and 275108 on the Gourd Spring Allotment.

Table 2.1.1 Current Term Grazing Permits

ALLOTMENT		Authorization Num.	LIVESTOCK		GRAZING PERIOD		** % Public Land	AUMs		
Name	Number		* Number	Kind	Begin	End		Active Use	Hist. Susp. Use	Total Use
Gourd Spring	01071	275108	207	cattle	10/1	5/31	100%	1661	0	1661
			9	horses	10/1	5/31	100%	72	0	72
	01071	2703753	207	cattle	10/1	5/31	100%	1661	0	1661
			9	horses	10/1	5/31	100%	72	0	72

*These numbers are approximate ** This is for billing purposes only.

2.1.2 Proposed Term Permits

The new term permits would contain the same mandatory terms and conditions as the current term permits.

The renewal of the term grazing permits would be for a period of up to 10 years. If the grazing preferences, associated with either of the permits, are transferred during this 10-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.

The new term permits would also include standard terms and conditions which further assist in 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 (BMPs) would also be added to the Term Grazing Permits

to assist in maintaining the Standards:

1. Allowable Use Levels on current year's growth of upland perennial vegetation (grasses, forbs and shrubs) within the Gourd Spring Allotment - during the authorized grazing use period (10/1 to 5/31) - will not exceed 40%.

2. With coordination of the BLM, water hauling locations will be used in a manner which will yield better livestock management within the allotment. Water hauling will be limited to existing roads. No roads will be bladed or improved in any way, with mechanical equipment, without the expressed consent of the authorized officer.

To address the Mormon Mountain Wilderness area, 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):

3. No motorized access is permitted within the designated Mormon Mountain Wilderness Area without approval of the District Manager. Except in the case of emergency, as defined in BLM Handbook 6340 (Management of Designated Wilderness Areas (Public), 2012) permittees must obtain written authorization from the District Manager prior to using any motorized vehicles, mechanical transport or mechanized devices within the wilderness area. The use of motor vehicles, mechanical transport, or motorized equipment is not allowed for herding animals or routine inspection of the condition of developments or the condition of the range.

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) (RMP 2; pp. 132-133), would be included in the term grazing permits to minimize incidental take of desert tortoises that may result from the implementation of programs in general:

4. 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.

5. Tortoises discovered to be in imminent danger during projects or activities covered under this biological opinion, may be moved out of harm's way in accordance with Service guidelines (2009).

6. Desert tortoises shall be treated in a manner to ensure that 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 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 2 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.

7. Although it is unlikely desert tortoises would be moved, tortoises shall be handled by authorized individuals following recognized protocol (Service 2009).

8. 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.

The following terms and conditions, also from the *Programmatic Biological Opinion* (RMP 7; pp. 138-140) would be included in the term grazing permits to minimize incidental take of desert tortoises that may result from permitting livestock grazing:

9. 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 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.

10. Livestock grazing utilization levels or other thresholds shall be incorporated into the allotment term permits.

11. The permittee shall be required to take immediate action to remove any livestock that moves 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.

12. 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.

13. 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 0.5 mile from riparian areas. 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.

14. 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.

15. 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 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.

2.1.3 Invasive, Non-Native Species and Noxious Weeds

A Weed Risk Assessment was completed for this project (Appendix IV). In addition to weed surveys in the field, the Ely District weed inventory data was consulted, which accurately reflected field observation. The following species are documented within the project area:

Brassica tournefortii	Sahara mustard
Onopordum acanthium	Scotch thistle
Tamarix spp.	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 2013.

A list of species undocumented in the District follows:

Arctium minus	Common burdock
Bromus rubens	Red brome
Bromus tectorum	Cheatgrass
Ceratocephala testiculata	Bur buttercup
Elaeagnus angustifolia	Russian olive
Erodium circutarium	Filaree
Halogeton glomeratus	Halogeton
Marrubium vulgare	Horehound
Salsola kali	Russian thistle
Sysimbrium altissimum	Tumble mustard
Tragopogon dubius	Yellow salsify

2.1.4 Wilderness

Within wilderness, authorization for the use of motorized equipment or mechanized transport for range development maintenance or repair would be granted – consistent with the NEPA analysis – through a BLM letter of authorization. Such authorization letters would be consistent with terms and conditions listed in the Final Grazing Decision, and would include specified design features or mitigation measures along with any specified follow-up actions.

Authorization letters would designate exact travel routes to be followed if any motorized equipment or mechanical transport is authorized as well as habitat rehabilitation requirements. They would also include the specific management guidelines outlined in Appendix V, as appropriate.

2.1.5 Monitoring

The Ely District Approved Resource Management Plan (August 2008) identifies monitoring to include (p. 88): "Monitoring to assess rangeland health standards will include records of actual livestock use, measurements of forage utilization, ecological site inventory data, cover data, soil mapping, and allotment evaluations or rangeland health assessments. Conditions and trends of resources affected by livestock grazing will be monitored to support periodic analysis/evaluation, site-specific adjustments of livestock management actions, and term permit renewals".

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.

2.2 Description of Alternatives Analyzed in Detail

2.2.1 No Action Alternative

The No Action Alternative, for livestock grazing, permit renewals is defined as "continuing to graze under current terms and conditions" in IM-2000-022, Change 1 (re-authorized by IM-2010-063).

Therefore, the No Action Alternative would reflect the status quo. The term permits would be issued without changes to grazing management, or modifications to the existing terms and conditions of the permit. The fence along the Carp/Elgin road would be removed which would return the allotment to one pasture with no ability for rotational use, also under the no action there would be no improvements to the water systems resulting in livestock concentrated on the several waters presently in the west side of the allotment. The gap fences would not be built along the southern allotment border allowing the livestock to cross the ridge line unrestricted into the Mormon Peak allotment and the desert tortoise ACEC to the south.

The renewal of the term grazing permits would be for a period of up to 10 years. If the grazing preferences, associated with any of the permits, are transferred during this 10-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.

2.2.2 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 (Ely PRMP/FEIS) (November, 2007) which is addressed below.

2.3 Alternatives Considered but Eliminated from Further Analysis

The Ely PRMP/FEIS (Volume II) analyzed the Environmental Impacts of livestock grazing under the Proposed RMP, along with four alternatives (p.4.16-1 to 4.16-15.), which included a no-grazing alternative (Alternative D). It also analyzed Environmental impacts on vegetative resources from livestock grazing under the Proposed RMP and the four alternatives (4.5-1 to 4.5-28), which included 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 (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
- Alternative D, conservation alternative (no-grazing alternative)

3.0 Description of the Affected Environment and Associated Environmental Consequences

3.1 Allotment Information

The Gourd Spring Allotment is intersected by three Watersheds (Toquop Wash, Garden Wash and Halfway Wash/Virgin River) and is approximately 97,700 acres in size. Elevations range from approximately 2,400 feet along the eastern boundary to approximately 5,300 feet in the East Mormon Mountains in the central portion of the allotment.

Neither the allotment nor any of its portions are located within a Wild Horse Herd Management Area (HMA) or Wilderness Study Area. However, the western portion of the allotment (about 12,900 acres) is in the Mormon Mountain Wilderness. The allotment also contains habitat for the federally threatened desert tortoise (*Gopherus agassizii*) (Appendix I, Map #2). The Mormon Mesa Area of Critical Environmental Concern (ACEC) includes 39,852 acres of desert tortoise critical habitat within the allotment. The ACEC was closed to grazing in 2000 with the signing of the Record of Decision for the Caliente Management Framework Plan Amendment.

Another 2,962 acres of desert tortoise critical habitat is located within the allotment but outside of the ACEC boundary.

There are three known developed springs (Abe Spring, Gourd Spring and Peach Spring) that service livestock watering locations on the allotment. There are no riparian areas associated with these springs. The Sam's Camp pipeline provides water to the northern portion of the allotment. In addition reservoirs are used to collect runoff in favorable years and water hauling is used to service the remainder of the allotment.

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	Air quality in Lincoln County is classified by the State of Nevada as being "unclassifiable" since no monitoring has been conducted to determine the classification and National Ambient Air Quality Standards; violations would not otherwise be expected in the county. The proposed action would not have a measurable affect the air quality of Lincoln County. Any dust created would be expected to be ephemeral.
Cultural Resources	No	Impacts from livestock grazing on Cultural Resources are analyzed on page 4.9-5 of the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). A findings for Cultural Resources Needs Assessment was completed. All range improvements, surface disturbing projects, and changes in grazing patterns that will concentrate grazing and may create impacts related to this permit will be subject to Section 106 review and, if needed, SHPO consultation as per the BLM Nevada's implementation of the Protocol for cultural resources. There are no known conflicts between current grazing practices and cultural resources within the allotment associated with this permit renewal. The proposed action will not cause the loss or destruction of significant scientific, cultural or historical resources. The Bureau of Land Management reserves the right to expeditiously mitigate or eliminate impacts to cultural resources discovered after this permit is issued.
Paleontological Resources	No	No currently identified paleontological resources are present in the project area.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Native American Religious Concerns and other concerns	No	Letters notifying Native American Tribes of proposed term grazing permit renewals scheduled for 2012/2013 were sent out on June 15, 2012 for a 30 day comment period. The Gourd Spring Allotment was included in the notification. 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. On May 18, 2013 a Weed Risk Assessment was completed for this project (Appendix IV). The design features of the proposed action, in addition to the vigilant practices described in the Noxious Weed Risk Assessment, 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. 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 of this EA.
Grazing Uses	Yes	Livestock grazing is analyzed in this EA.
Forest Health[1]	No	There are no woodlands located in the Gourd Spring Allotment.
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 west portion of the allotment (about 13%) is in the Mormon Mountain Wilderness.
Lands with Wilderness Characteristics	No	In the original 1979/1980 wilderness characteristics inventory, 12 units were inventoried which overlap the Gourd Spring allotment, one of which was found to possess wilderness characteristics. It was designated in 2004 as the Mormon Mountains Wilderness. In the 2011-2014 inventory update, 11 units extend into the allotment, of which two inventory units found to possess wilderness characteristics based on the adjacent wilderness. One other unit was found to possess wilderness characteristics on its own merit. There are no anticipated impacts to Size,

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		Solitude or Primitive forms of Recreation from the proposed action, no action or no grazing alternatives.
Special Designations other than Designated Wilderness	No	No Special Designations occur within the project area.
Wetlands/Riparian Zones	No	No riparian areas occur on public land in the analysis area.
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 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 vicinal to or within the project analysis area.
Floodplains	No	The project analysis area is not included on FEMA flood maps. The resource does not exist in the proposed project area.
Migratory Birds	No	The migratory bird species that occur in or near the project area are listed in Appendix VI. It is anticipated that the establishment of Allowable Use Levels would aid in maintaining achievement of the Standards and Guidelines for rangeland health; thereby, maintaining or improving habitat conditions for all migratory birds of concern. There is always a possibility that the nests, and/or developing young, of ground nesting birds during the spring nesting period could be trampled by cattle. However, the potential for nest trampling is anticipated to be remote and upon occurrence, would be limited to an occasional individual or nest. If nests were lost due to trampling, birds would likely re-nest. Grazing would also reduce the height of existing vegetative structure and cover to some degree. However, with the establishment of Allowable Use Levels it is anticipated that vegetative structure and cover would be negligibly affected. In view of the aforementioned, it is anticipated that negative impacts to migratory bird populations, as a whole, would be negligible.
U.S. Fish and Wildlife Service (USFWS) Listed or proposed for listing Threatened or Endangered Species or critical habitat.*	Yes	Impacts from livestock grazing on Special Status Species, including Threatened and Endangered Species were analyzed on pages 4.7-28 through 4.7-33in the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Species (plant and animal) that occur in or near the project area are listed in Appendix VI.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		The allotment contains habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*) (Appendix I, Map #2). Formal section 7 consultation for this species is being pursued. The aforementioned species is analyzed in detail in this EA.
Special Status Plant Species, other than those listed or proposed by the USFWS as Threatened or Endangered	Yes	Impacts from livestock grazing on Special Status Species, including Threatened and Endangered Species were analyzed on pages 4.7-28 through 4.7-33in the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Plant species that occur in or near the project area are listed in Appendix VI. The allotment contains a population of the BLM sensitive plant species Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*). The aforementioned species is analyzed in detail in this EA.
Special Status Animal Species, other than those listed or proposed by the UFWS as Threatened or Endangered	Yes	Impacts from livestock grazing on Special Status Species, including Threatened and Endangered Species were analyzed on pages 4.7-28 through 4.7-33in the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Wildlife species that occur in or near the allotment are listed in Appendix VI. The allotment contains the following BLM sensitive species: desert bighorn sheep (*Ovis canadensis nelsoni*), banded Gila monster (*Heloderma suspectum cinctum*), golden eagle (*Aquila chrysaetos*); Brewer's sparrow (*Spizella breweri*), LeConte's thrasher (*Toxostoma lecontei*), loggerhead shrike (*Lanius ludovicianus*), western burrowing owl (*Athene cunicularia*), and sage thrasher (*Oreoscoptes montanus*). The aforementioned species are analyzed in detail in this EA.
Fish and Wildlife	No	There are no lentic or lotic riparian areas located within the Gourd Spring Allotment on BLM managed lands. Therefore, there are no fish within the allotment. Wildlife species – including sensitive species – that occur in or near the project area are listed in Appendix VI. 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). 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. The allotment contains general habitat for mule deer (*Odocoileus hemionus*), small mammals and reptiles. No population level impacts are anticipated to these species. Therefore, it is anticipated that the proposed action would have no a measurable affect this resource.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Wild Horses	No	Neither the allotment nor any of its portions are located within a Wild Horse Herd Management Area (HMA).
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 in the project analysis area are not prone to compaction or erosion problems; infiltration rates and soil permeability are high and soil textures are coarse throughout the area It is expected that the proposed action would not measurably affect soil resources.
Mineral Resources	No	Locatable, leasable, and saleable mineral resources occur within the affected area. Presently, exploration operations for locatable and leasable operations occur within this area. Additional oil and gas lease parcels are proposed in this area for sale in December 2014. The existing and proposed mineral operations could impact the proposed action. However, the proposed action or alternatives would not have a direct, indirect, or cumulative impact on mineral resources, and therefore, does not require detailed analysis.
VRM	No	The proposed action is consistent with the VRM classification objectives for VRM classes 1, 2, 3 and 4 within the allotment; 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
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.
Areas of Critical Environmental Concern (ACEC)	No	Mormon Mesa desert tortoise ACEC occurs on approximately 40,000 acres of the allotment which were removed from grazing in 2000 under the Caliente Management Framework Plan Amendment.
Farmlands (Prime or Unique)	No	There are no "Prime or unique" farmlands within the Gourd Spring Allotment.

[1] Healthy Forests Restoration Act projects only

* Consultation required, unless a "not present" or "no effect" finding is made.

An analysis of grazing impacts on the following resources – noted in the above table as being negligibly affected – may be found in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) on the noted pages: Cultural Resources (page 4.9-5); Water Quality, Drinking/Ground (page 4.3-5); Fish and Wildlife (pages 4.6-10 through 4.6-11); and Soil Resources (page 4.4-4). Consequently, these resources do not require a further detailed analysis.

3.3 Resources/Concerns Analyzed

The following 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: Vegetative Resources; Rangeland Standards and Health; Grazing Uses; USFWS Listed or proposed for listing Threatened or Endangered Species or critical habitat; Special Status Plant Species, other than those listed or proposed by the USFWS as Threatened or Endangered and Special Status Animal Species other than those listed or proposed by the USFWS as Threatened or Endangered. An analysis of grazing impacts on the former two resources may also be found in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) (Volume II), on the following noted pages: Vegetative Resources (page 4.5-9); Rangeland Standards and Health (pages 4.16-3 through 4.16-4); Special Status Species, including Threatened and Endangered Species (pages 4.7-28 through 4.7-33).

3.3.1 Vegetative Resources; Rangeland Standards and Health; Grazing Uses

3.3.1.1 Affected Environment

Sections 1.1, 2.1 and 3.1 describe and/or reference basic information about the Gourd Spring Allotment.

As described under section 1.2, an assessment of livestock grazing management and rangeland health on the allotment, in the form of a SDD was completed in conjunction with the permit renewal process (Appendix II).

The assessment indicated that Standards 1 and 3, and the upland portion of Standard 2 are not being achieved. The riparian portion of Standard 2 is not applicable. Spring rest will be accomplished through adaptive management and manipulation of water sources to allow a deferred rotation within the allotment.

3.3.1.2 Environmental Consequences

<u>Proposed Action</u>

The Proposed Action is to change the current utilization levels from 50% of current year's growth to 40% of current year's growth, with grazing authorizations being based on annual forage availability. Spring rest will be accomplished through adaptive management and manipulation of water sources to allow a deferred rotation of areas within the allotment.

This would favor plant growth and seed set requirements in cool and warm 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.

Consequently, the benefits to plant physiology, added soil protection and wildlife cover would be enhanced; the plant quality and volume of existing forage species would be promoted; and the potential for loss of desired plant species, due to repeated grazing during the critical growing period for plants, would decline. Summarily, this would impact the desired forage base in a positive manner.

With the availability to use "temporary nonrenewable forage" during those years with abundant annual grass production it is anticipated that the fine fuel build up will be somewhat reduced in reference to fire. This will reduce the fire starts and if a fire were to be ignited in the area it would help in reducing the spread and intensity of the fire, thus benefiting the habitat for the desert tortoise.

A concentrated influence on vegetation, vicinal to water troughs, is expected due to typical ungulate behavior associated with point water sources. Typically, there is an area immediately surrounding the troughs where soil and vegetation is the most affected as a result of cattle trampling and/or grazing while drinking. Varying degrees of grazing use/trampling subsequently occurs, in a radial pattern, with such affects decreasing as distance from the watering source increases.

However, having ~~existing~~ permanent watering ~~haul~~ locations spread throughout the Gourd Spring Allotment provides a means to help control livestock. Strategically using multiple watering locations during a grazing season can improve livestock distribution to achieve a more uniform utilization level within the allotment. This will be critical in reducing fuel continuity and fire intensity and severity.

Seasonal rotation of watering locations – whereby, those locations used during one grazing season are not used during the next – provides the benefit of allowing the periodic rest of areas directly influenced by point water sources with regards to trampling and levels of grazing use. Creating a more uniform utilization level within the portion of the allotment being grazed, coupled with the periodic rest resulting from the seasonal rotation of watering locations, should result in achieving/maintaining enhanced forage production, ground cover, plant vigor and overall range condition. In addition, the potential for unacceptable utilization levels can be dramatically reduced; while providing benefits to wildlife regarding not only forage and cover, but additional water availability during the livestock grazing season.

The Nevada Department of Wildlife (NDOW) developed and completed a statewide Comprehensive Wildlife Conservation Plan in September 2012. The plan was approved by the USFWS on March 1, 2013 (Wildlife Action Plan Team 2013). It serves as a comprehensive, landscape level plan, identifying the species of greatest conservation need and the key habitats on which they depend, with the intent to prevent wildlife species from becoming threatened or endangered.

According to the Nevada Wildlife Action Plan, range improvements resulting in better distribution of livestock can reduce impacts. The plan notes: "Livestock facilities such as springs developments, water pipelines, and fencing have distributed livestock use over areas that were sporadically or lightly used prior to agricultural development. Distribution of livestock over a greater area, can also reduce impacts associated with concentrated livestock – trampling, soil compaction, eroding trails, etc."

The Nevada Wildlife Action Plan goes on to discuss habitat benefits of water developments further: "The presence of livestock water developments can also improve the quality of surrounding habitat, allowing wildlife species to expand into previously unoccupied areas. Pronghorn antelope generally require permanent water sources at intervals of less than five miles within their home range. Ranchers have become increasingly interested in, with the help of various federal programs, developing water systems that are wildlife friendly (e.g., wildlife escape ladders, using structures of different size, shape or position to enhance wildlife use). Strategically placed water developments that are managed to eliminate excessive diversion and that incorporate wildlife friendly features can be used to enhance rangeland for both livestock and wildlife. Food, cover, and space are habitat needs for both wildlife and livestock. Grazing management can be focused to managing livestock in a manner that supports these basic habitat elements while maintaining native plant community integrity – the plant communities to which native wildlife have adapted."

The installation and maintenance of wildlife escape ramps in all water troughs would allow a means of escape for wildlife.

It is anticipated and reasonable to expect, then, that Standards 1, 3 and the upland portion of Standard 2 would move toward being achieved.

The Proposed Action would also add other terms and conditions (BMPs) to the permit that would aid in achieving/maintaining the Mojave-Southern Great Basin Standards. In changing the allowable use levels from 50% to 40% of the annual growth would help the native perennial vegetation maintain vigor and assist in storage of nutrients in the root systems thereby aiding in plant vigor and health.

<u>No Action Alternative</u>

All of the mandatory terms and conditions of the current permit, as displayed under section 2.1.1, would remain unchanged.

Also under the no action alternative, the standard terms and conditions referenced under 2.1.2 in the Proposed Action and in Appendix III of this EA - which further assist in maintaining the Standards and Guidelines for Grazing Administration in addition to other pertinent land use objectives for livestock use - would not be included in the new permit.

The range improvements, such as the addition of watering locations, would not be implemented under the no action alternative. Better livestock distribution would not be achieved under this alternative.

In addition, all the terms and conditions from the Programmatic Biological Opinion (PBO), intended to minimize incidental take of the desert tortoise, would not be included in the new permit. This would ignore PBO directives (and the efforts associated with threatened and endangered species consultation with the U.S. Fish and Wildlife Service) designed to mitigate impacts to the desert tortoise; and, could subsequently have negative impacts on the currently listed species.

The ability to use grazing as a management tool to help reduce fine fuels by increasing grazing use during years of high annual grass production, while targeting weed species, when such species are most palatable and vulnerable to grazing would be lost.

In summary, all of the benefits listed under the Environmental Consequences for the Proposed Action would not occur.

No Grazing Alternative

For a short period of time following implementation, this may accomplish the same desired result as allowing periodic rest during the critical growing period for plants as presented under the proposed action by allowing perennial forage plants rest during the vital phonological stages of their annual growing cycle. However, according to studies this benefit would be relatively short-lived.

In fact it is realized in the scientific community that, over time and without outside influences such as fire, grasses may become wolfy 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 grazing animals. 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." This is due to accumulating fine fuels which remain on the land over several years, in this environment, unless eaten or trampled into the soil.

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 PRMP/FEIS pg. 4.5–27).

The no grazing alternative was also considered and analyzed in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November, 2007) which is addressed below. However The RMP did not go into depth on the altered ecosystem due to the 2005 fires and the resulting type change from a desert shrub community to an annual grass community for portions of the Mojave Desert. This type change has shown to be more receptive to repeat fires which further erode the native desert plant community be eliminating the seed bank and re-burning the sprouting native plants. The no grazing alternative would allow the invasive grasses to grow without restriction adding to the continuity of fine fuels which could potentially add to fire starts and fire growth. When looking at the Mormon Peak allotment to the west of Gourd Spring we have a good comparison of an allotment with "No Grazing" use and the Gourd Spring allotment with "seasonal use". There are little measurable differences in vegetation on the burned areas of the two allotments.

3.3.2 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 USFWS as Threatened or Endangered

3.3.2.1 Affected Environment

The Gourd Spring allotment is located within habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*). The allotment also contains approximately 39,643 acres of the Mormon Mesa ACEC and 401 acres of the Beaver Dam Slope ACEC, which were closed to grazing in 2000. There are 2,383 acres of desert tortoise critical habitat in the Beaver Dam Slope Critical Habitat Unit and 579 acres of desert tortoise habitat in the Mormon Mesa Critical Habitat Unit in the allotment, primarily located on the southern and eastern portions of the allotment.

The allotment is located within the desert tortoise Northeast Mojave Recovery Unit (NE RU). Line Distance Sampling (LDS) desert tortoise density estimates in the last ten years for the NE RU range from 0.84 to 3.4 tortoises/km^2 (Table 3.3.2.1.a.).

Table 3.3.2.1.a. Desert Tortoise Density Estimates for NE RU

Area	**Year**	**Density (km^2)**	**Std Error**
NE RU	2002	0.84	0.476
NE RU	2003	3.01	0.465
NE RU	2004	1.42	0.342
NE RU	2005	2.15	0.400
NE RU	2007	1.7	25.0 = CV
NE RU	2008	0.9	28.3 = CV
NE RU	2009	3.4	34.0 = CV

NE RU	2010	3.2	15.8 = CV
NE RU	2011	3.4	21.3 = CV
NE RU	2012	3.4	20.1 = CV

CV=Coefficient of Variance

Additional data were analyzed for the Beaver Dam Slope Critical Habitat Unit (CHU). LDS desert tortoise density estimates for 2007 to 2012 for the Beaver Dam Slope CHU range from 1.1 to 5.4 tortoises/km^2 (Table 3.3.2.1.b.). Data were compiled from Annual Reports on Range-wide Monitoring of the Mojave Population of the Desert Tortoise (USFWS 2009-2012). The BLM Ely District funded additional transects just north of outside the Beaver Dam Slope CHU in 2008 and 2009. However, no tortoises were observed.

Table 3.3.2.1.b. Desert Tortoise Density Estimates for Beaver Dam Slope CHU

Area	**Year**	**Density (km^2)**	**Coefficient of Variance**
BDS CHU	2007	1.2	53.2
BDS CHU*	2008	1.1	52.4
BDS CHU*	2009	3.2	49.2
BDS CHU	2010	3.3	28.2
BDS CHU	2011	3.3	37.24
BDS CHU	2012	5.4	29.93

* Additional transects funded by BLM in areas outside and north of BDS CHU in 2008 & 2009. However, no tortoises were observed.

LDS desert tortoise density estimates for 2007 to 2012 for the Mormon Mesa CHU range from 1.0 to 7.3 tortoises/km^2 (Table 3.3.2.1.c.). Data were compiled from Annual Reports on Range-wide Monitoring of the Mojave Population of the Desert Tortoise (USFWS 2009-2012). The BLM Ely District funded additional transects just north of outside the MM and BDS CHUs in 2008 and 2009. The densities were lower in areas north of the MM CHU.

Table 3.3.2.1.c. Desert Tortoise Density Estimates for Mormon Mesa CHU

Area	**Year**	**Density (km^2)**	**Coefficient of Variance**
MM CHU	2007	3.3	31.2

MM CHU	2008	1.9	38.0
MM2 CHU*	2008	1.0	44.1
MM CHU	2009	7.3	37.7
MM2 CHU*	2009	2.4	49.4
MM CHU	2010	5.5	20.7
MM CHU	2011	6.3	33.21
MM CHU	2012	4.3	30.03

* Additional transects funded by BLM in areas outside and north of MM CHU in 2008 & 2009.

BLM desert tortoise triangular transects (surveyed in 1980s to 1990) estimated tortoise densities from very low to low in this allotment.

The proposed pipeline extension, livestock water development, holding tank at the Horse Spring water haul, and temporary water haul locations to be converted to permanent water haul locations would be located within desert tortoise habitat. The gap fences to be maintained and/or replaced would also be located within desert tortoise habitat.

3.3.2.2 Environmental Consequences

Proposed Action

The Revised Recovery Plan for the Mojave Population of the Desert Tortoise (2011), states under Recovery Action 2.16 (minimize impacts to tortoises from 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). There is currently no evidence that cattle grazing will restore habitat or prevent fire in Mojave Desert environments."

The Revised Recovery Plan goes on to recommend: "The [U.S. Fish and Wildlife] Service should work to assist grazing managers to develop experimental application of 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), in order to investigate the compatibility of grazing with desert tortoise populations." The Revised Recovery Plan identifies outside of desert tortoise conservation areas as the most appropriate areas to collect data on these sorts of experimental applications.

Some management actions recommended in the Revised Recovery Plan are incorporated into the proposed action for the Gourd Spring allotment, such as: removing trespass cattle, monitoring, and prohibiting supplemental feeding.

The introduction of new watering locations and the extension of a water pipeline in the allotment has the potential to relieve grazing pressure within portions of desert tortoise habitat by

displacing livestock to the areas serviced by the waters. Additionally, the strategic use of multiple watering locations during the grazing season by the permittees should improve livestock distribution to achieve a more uniform utilization level within the allotment. This would potentially further decrease overall impacts to the soil and plant resources, including desert tortoise habitat. In addition, the potential for unacceptable utilization levels would be reduced due to the better distribution of livestock. This would provide benefits to wildlife with more forage and cover.

Maintenance and/or repairs of gap fences would benefit desert tortoise habitat within the ACEC. These gap fences could offer a measure of protection to the desert tortoise population within the ACEC and the Mormon Mesa CHU, which has higher densities than the non-critical desert tortoise habitat.

The terms and conditions listed in the Proposed Action would minimize impacts to desert tortoise and its associated habitat. For example, a 40% utilization limit on vegetation would benefit vegetative thermal cover and forage species for tortoise.

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."

BLM sent a memorandum to the U.S. Fish and Wildlife Service requesting Section 7 consultation, regarding the proposed action, for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*).

Additionally, with the coordination of the BLM the strategic use of multiple watering locations during the grazing season, by each permittee, should maintain livestock distribution to achieve a uniform utilization level within the allotment. When coupled with the introduction of allowable use levels, it would aid in preventing overall negative impacts to the soil and plant resources while also allowing grazing to address increased fuel loading from invasive annual plants.

As a result, it would promote the potential for native 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.

Consequently, the following would be promoted: the potential benefits to plant physiology, added soil protection and wildlife cover; the plant quality and volume of existing forage species; and the reduction in the potential for loss of desired plant species. As a result, this would influence the desired forage base in a positive manner.

A concentrated influence on vegetation, vicinal to watering locations, is expected due to typical ungulate behavior associated with point water sources. Typically, there is an area immediately surrounding the troughs where soil and vegetation is the most affected as a result of cattle trampling and grazing while drinking. Varying degrees of grazing use/trampling subsequently occurs, in a radial pattern, with such affects decreasing as distance from the watering source increases. However, with the establishment of new watering locations, logic dictates that the overall degree of such impacts should further decline, because of additional water sources servicing the same number of previously grazed livestock.

Standards 1, 3, and the upland portion of Standard 2 should progress towards achievement as long as the historic fire regime is maintained. The addition of watering locations and the increased dispersal of grazing will help to achieve this goal.

The Proposed Action would also add other terms and conditions (BMPs) to the permit that would aid in maintaining the Mojave-Southern Great Basin Standards: Allowable utilization levels would be adjusted to not exceed 40% use on key shrub, forb and perennial grasses species.

No Action Alternative

Because authorization of new watering locations would not occur, grazing would not be as well distributed in this allotment. This could have a negative impact on the plant resources that could otherwise serve as thermal cover or forage species for the desert tortoise.

All of the mandatory terms and conditions of the current permits, as displayed under section 2.1.1, would remain unchanged.

Under the no action alternative, the standard terms and conditions referenced under 2.1.2 under the Proposed Action and in Appendix III of this EA - which further assist in maintaining the Standards and Guidelines for Grazing Administration in addition to other pertinent land use objectives for livestock use - would not be included in the new permits.

The BMPs listed under 2.1.2, intended to assist in maintaining the Standards, would not be included in the new permits. Consequently, the setting of allowable use limits; the rotation of watering locations directed at allowing periodic rest for areas serviced by each watering location; the strategic use of watering locations, and requirement of herding as needed, directed at yielding maximum livestock distribution; and the restriction of water hauling to existing roads would not become integrated into the permits.

Consequently, the benefits to plant physiology and added soil protection, and wildlife cover – as described under 2.1 of the Proposed Action – would be dramatically reduced; and, the plant quality and volume of existing forage species could decrease, thereby, impacting the desired forage base in a negative manner. This would have overall negative impacts on vegetative resources and the health of the land.

In addition, all other terms and conditions referenced under 2.1.2 – intended to minimize incidental take of the desert tortoise – would not be included in the new permits. This could have negative impacts on a currently listed species.

The needed range improvements analyzed in this document would not be completed and the benefits to the resources would not be realized.

No Grazing Alternative

Not grazing the allotment could be beneficial to desert tortoise by eliminating a perceived threat of grazing in desert tortoise habitat. Grazing is one of the few perceived threats to desert tortoise that can be managed.

However, the absence of grazing could lead to greater fuel loading and increase fire intensity and severity. If this fuel loading resulted in wildfires, then the absence of grazing could be detrimental. The Revised Recovery Plan states: "There is currently no evidence that cattle grazing will restore habitat or prevent fire in Mojave Desert environments." Further study would be needed to determine the long-term consequences of not grazing this area and how the absence of grazing impacts desert tortoise.

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

3.3.3.1 Affected Environment

Plants

Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*)The population of Las Vegas buckwheat within this allotment is in the vicinity of Toquop Wash.

Animals

The allotment contains the following BLM sensitive species: desert bighorn sheep (*Ovis canadensis nelsoni*), banded Gila monster (*Heloderma suspectum cinctum*), golden eagle (*Aquila chrysaetos*); Brewer's sparrow (*Spizella breweri*), LeConte's thrasher (*Toxostoma lecontei*), loggerhead shrike (*Lanius ludovicianus*), western burrowing owl (*Athene cunicularia*), and sage thrasher (*Oreoscoptes montanus*).

3.3.3.2 Environmental Consequences

Proposed Action

Plants

The location of the Las Vegas buckwheat population on the Gourd Spring allotment receives little to no livestock grazing. Livestock from this allotment rarely, if ever, travel east of Toquop Wash into the far eastern corner of this allotment. The lack of water in this portion of the allotment limits livestock use as well. The permittee does not encourage his livestock to use this area with mineral supplements due to the type of forage in this area of gypsum soils. Therefore, impacts are anticipated to be minimal, if at all. Therefore, this species has been eliminated from further analysis in this document.

Animals

Golden eagles and loggerhead shrike typically nest at a height greater than what livestock can reach (3 feet and above), therefore, no direct impacts to this bird species are anticipated.

Livestock grazing is generally not listed as a potential threat or conservation issue for the some of the sensitive bird species that may potentially occur on this allotment, such as the golden eagle (Ehrlich et al. 1988, Great Basin Bird Observatory 2010, and Paige and Ritter 1999).

Some species show no clear response or a positive response to livestock grazing. For example, burrowing owls showed positive or mixed responses to grazing (Paige and Ritter 1999 and Saab et al. 1995). Light to moderate grazing may provide open habitat for loggerhead shrike foraging (Paige and Ritter 1999). Sage thrasher showed mixed responses to grazing with a positive response to grazing in two studies and a negative response in one study (Saab et al. 1995). Overgrazing and high densities of livestock could be a threat to LeConte's thrasher (Shuford and Gardali (2008), however the proposed action establishes utilization limits that would minimize this potential impact.

Brewer's sparrow is often found within 1,000 m of water (Great Basin Bird Observatory 2010), therefore, the additional waters in the Proposed Action may be beneficial to this species. Due to their lower nest locations (Ehrlich et al. 1988), Western burrowing owl, Brewer's sparrow, sage thrasher, and LeConte's thrasher may experience individual impacts from grazing, but no population-level effects are anticipated from the Proposed Action.

Studies on dietary overlap between desert bighorn sheep and cattle vary. One study between desert bighorn sheep and cattle in the Virgin Mountains of the northern Mojave Desert in Arizona did not find forage competition to be apparent (Morgart 1990). However, 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.

Very few studies have shown disease transmission between desert bighorn sheep and cattle as an issue. Experiments that put bighorn sheep in contact with species that were not domestic sheep (i.e. cattle, horses, elk, etc.) do not support a stress or transmission of fatal microbes hypothesis (Schommer and Woolever 2008).

In a study on ecology and behavior of Gila monsters in southwestern Utah, Beck found that all shelters used by Gila monsters were in rocky areas (1990). Therefore, trampling of Gila monster shelters by livestock is unlikely. These lizards spend a large percentage of their time underground and feed primarily on eggs and young small mammals taken from nests. Given the carnivorous diet and secretive nature of Gila monsters, no impacts to this species are anticipated from the proposed action.

According to the Nevada Wildlife Action Plan (Wildlife Action Plan Team 2013), range improvements resulting in better distribution of livestock, can reduce impacts, "livestock facilities such as springs developments, water pipelines, and fencing have distributed livestock use over areas that were sporadically or lightly used prior to agricultural development. Distribution of livestock over a greater area can also reduce impacts associated with concentrated livestock – trampling, soil compaction, eroding trails, etc."

The Nevada Wildlife Action Plan goes on to discuss habitat benefits of water developments further, "the presence of livestock water developments can also improve the quality of surrounding habitat, allowing wildlife species to expand into previously unoccupied areas. Pronghorn antelope generally require permanent water sources at intervals of less than five miles within their home range. Ranchers have become increasingly interested in, with the help of various federal programs, developing water systems that are wildlife friendly (e.g., wildlife escape ladders, using structures of different size, shape or position to enhance wildlife use). Strategically placed water developments that are managed to eliminate excessive diversion and that incorporate wildlife friendly features can be used to enhance rangeland for both livestock and wildlife. Food, cover, and space are habitat needs for both wildlife and livestock. Grazing management can be focused to managing livestock in a manner that supports these basic habitat elements while maintaining native plant community integrity – the plant communities to which native wildlife have adapted."

In general, terms and conditions (such as a 40% utilization limit on vegetation) incorporated in the Proposed Action would benefit sensitive species that may occur within the allotment.

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.

Also, under the no action alternative, the terms and conditions listed under 2.1.2 in the Proposed Action and in Appendix III of this EA would not be included in the new permit. Special status species and their associated habitats would not benefit from utilization limits (meant to prevent overgrazing) that are incorporated in the Proposed Action.

No Grazing Alternative

The no grazing alternative would remove any pressure from invasive annual grasses and could 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. Wildfires could be detrimental to sensitive species and their associated habitats.

3.3.4 Wilderness

3.3.4.1 Affected Environment

Approximately 13% (12,690 acres) (GIS) of the allotment occurs within the Mormon Mountains Wilderness area which encompasses approximately 157,938 acres (Appendix I of the EA for a map).

Planning related to grazing operations would be guided by the Congressional Grazing Guidelines (House Report 105-405 Appendix L, 1990); BLM Manual 6340 (Management of Designated Wilderness Areas (Public)) (dated 7/13/2012); and the Delamar Mountains, Meadow Valley Range and Mormon Mountains Wilderness Management Plan issued December 16, 2009.

Activities and necessary facilities used to support livestock grazing would be permitted to continue in wilderness. Two fence lines currently exist within the allotment in wilderness (Appendix V).

Wilderness character

The four qualities of wilderness character are described in the Wilderness Act of 1964 as: untrammeled (unhindered and free from modern human control or manipulation), natural, undeveloped, and outstanding opportunities for solitude or a primitive unconfined form of recreation. Other features of scientific, educational, scenic or historical value may also be present.

Untrammeled
Few trammeling activities occur within this wilderness and include management of wildland fire and weeds, and the presence of wildlife water developments, pipelines and fences.

Natural
The naturalness and primeval character of the wilderness is mostly preserved. Some changes to the native vegetation composition have occurred, including the introduction of the non-native annual grass (red brome) over portions of the wilderness.

Undeveloped
There are approximately 2 fence lines within the Gourd Springs allotment in the Mormon Mountains Wilderness. Range improvements that occur within the Mormon Mountains Wilderness are identified in Appendix V.

Outstanding opportunities for solitude or a primitive form of recreation
Visitors can enjoy outstanding opportunities for solitude and primitive, unconfined recreation in the wilderness. The many canyons provide excellent opportunities for solitude as does the sheer size of the wilderness. Outstanding recreation opportunities for hiking, exploration and camping are present throughout the area. Only the 14-day stay limit for camping confines primitive recreational opportunities.

3.3.4.2 Environmental Consequences

Proposed Action

Untrammeled
Trammeling activities would continue in the form of vegetation removal due to livestock grazing. The potential 25% increase in AUMs for reduction of invasive annual grasses would increase the trammeling activity; however, this would be offset by improvements in naturalness.

Natural
Allowing the "temporary nonrenewable forage" in the amount of 25% above the permitted AUMs for the reduction of invasive annual grasses would have the potential to improve the natural quality by reducing red brome.

Undeveloped
Inspection and routine maintenance of range developments within the wilderness would be accomplished on foot or horseback; therefore, those actions would not impact the undeveloped quality. Major maintenance or repair for which motorized equipment or mechanized transport would be authorized (e.g., fence repairs) would negatively impact the undeveloped character for the duration of the motorized or mechanized use. It is anticipated that the use of motorized vehicles or mechanical transport would be infrequent and the minimum tool would be determined through the use of an MRDG. See Appendix V for a list of range developments and wilderness-specific maintenance information.

Outstanding opportunities for solitude or a primitive form of recreation
Occasionally, visitors may encounter permittees and cattle. However, these impacts would be fairly low.

No Action Alternative

The term and condition in Section 2.1.2 designed to control permitted range-related specific activities while mitigating associated impacts within wilderness, as described in BLM Handbook 6340 for grazing facilities, would not be implemented. This would defeat the objective of striving to meet minimum requirements for the administration of wilderness areas, as set forth in BLM Manual 6340 (1.6.B.3.c, p. 1-16), in an effort to preserve wilderness character for the purpose of the Wilderness Act.

Untrammeled
The untrammeled quality of wilderness character would continue to be marginally impacted through removal of vegetation by livestock grazing.

Natural
Naturalness would not either be degraded or improved under this alternative.

Undeveloped
The potential for an increased frequency of maintenance of the range improvements with motorized equipment or mechanical transport would exist, thus impacting this quality of wilderness character for the duration of the use in wilderness life span of the permit.

Outstanding opportunities for solitude or a primitive form of recreation
Occasionally, visitors may encounter permittees and cattle.

No Grazing Alternative

Untrammeled
No grazing would occur on the allotment under this alternative, and thus no trammeling impacts to the vegetation or soils would occur.

Natural

Naturalness would not be impacted as grazing would not be occurring.

Undeveloped
Under the No Grazing Alternative, the undeveloped quality would be improved as range developments within wilderness are no longer needed, and subsequently removed. Occasional maintenance of the range developments with motorized equipment or mechanical transport would not need to occur.

Outstanding opportunities for solitude or a primitive form of recreation
The "outstanding opportunities" quality would be improved over the other two alternatives as no cattle or permittees would be in the area impacting solitude.

4.0 Cumulative Effects

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 PRMP/FEIS summarizes livestock grazing history in the region on pages 3.16–1 to 3.16–3. Range improvements have occurred on the allotment to improve grazing management and include fencing and stockwater developments.

Vegetation treatments on the allotment include historic blackbrush burns that were conducted in the 1950's and 1960's, as well as a small out planting conducted following the 2005 fires (see SDD).

The Ely PRMP/FEIS 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.

Other past actions include:

- 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 (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 approximate total of 38,321acres – within the Gourd Spring Allotment - 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. Other wells are in production for livestock benefit.
- Kern River natural gas pipeline was put in to service in February of 1992.
- UNEV petroleum pipeline has been constructed within the utility corridor specified in the Ely RMP (2008), which is also used by the Kern River Pipeline.

4.2 Present Actions

- UNEV petroleum pipeline is being constructed and near completion within the utility corridor specified in the Ely RMP (2008), 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 allotment analyzed. This action has increased traffic in the area as they access the site from the south through Gourd Spring Allotment.

4.3 Reasonably Foreseeable 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 occur within the next 10 years.

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

- The disposal of 0-300 acres of land located in the east portion of Gourd Spring Allotment as described in the Ely RMP (2008) and related to the Toquop power project.

- Toquop power generation is proceeding as a 1.2GW natural gas fired plant.

4.4 Cumulative Effects Summary

4.4.1 Proposed Action

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 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 if livestock is the causal factor. 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 achievement or maintenance 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 3.3.1.2.

No Action Alternative

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

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

4.4.2 No Action Alternative

The No Action Alternitive would have the same cumulative effect as the Proposed Action, above.

4.4.3 No Grazing Alternative

The No Grazing Alternative will not have any cumulative effects on rangeland health.

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 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

Daniel Condie	Rangeland Management Specialist/Project Lead
Chris Mayer	Supervisory Rangeland Management Specialist
Nick Pay	NEPA Coordinator
Alicia Styles	Wildlife, Special Status Species, Migratory Birds
Clinton Wertz	Soil, Water, Wetlands and Riparian, Floodplains
Cameron Boyce	Noxious and Invasive, Non-native Species
Nick Pay	Cultural Resources
Elvis Wall	Native American Cultural Concerns
Randy Johnson	Hazardous & Solid Waste/Safety
Lisa Domina	Recreation, Visual Resources

6.2 Persons, Groups or Agencies Consulted

The BLM is in the process of conducting consultation with the U.S. Fish and Wildlife Service, regarding livestock grazing in desert tortoise habitat. The terms and conditions of the resulting associated Biological Opinion will be incorporated into the permit.

Public Notice of Availability

The Ely District Office mails an annual Consultation, Cooperation and Coordination (CCC) letter, for various program areas, to individuals and organizations who have previously expressed an interest in federal actions on the Ely District. Through the CCC letter, the public has the opportunity to submit a request to be a interested public for grazing management actions on the Ely BLM District; and to specify the specific grazing management actions and grazing allotments in which they are interested. Grazing permittees are automatically included on the Grazing Interested Public Mailing List for any allotment on which they have a grazing permit.

On June 15, 2012, a letter was sent to local Native American tribes initiating the consultation compliance process in accordance with Section 106 of the National Historic Preservation Act of

1966, as amended. The letter solicited input for various permit renewals scheduled during 2012, including those on the Gourd Spring Allotment.

On October 11, 2012, the two permittees on the Gourd Spring Allotment (authorization numbers 2703753 and 275108) were each sent a letter informing them of the proposed term grazing permit renewal process scheduled during 2012-13. Each of the permittees responded that they would like to be involved in the Term Permit Renewal process.

On January 3, 2013, the aforementioned Ely BLM annual CCC letter was mailed.

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APPENDIX I

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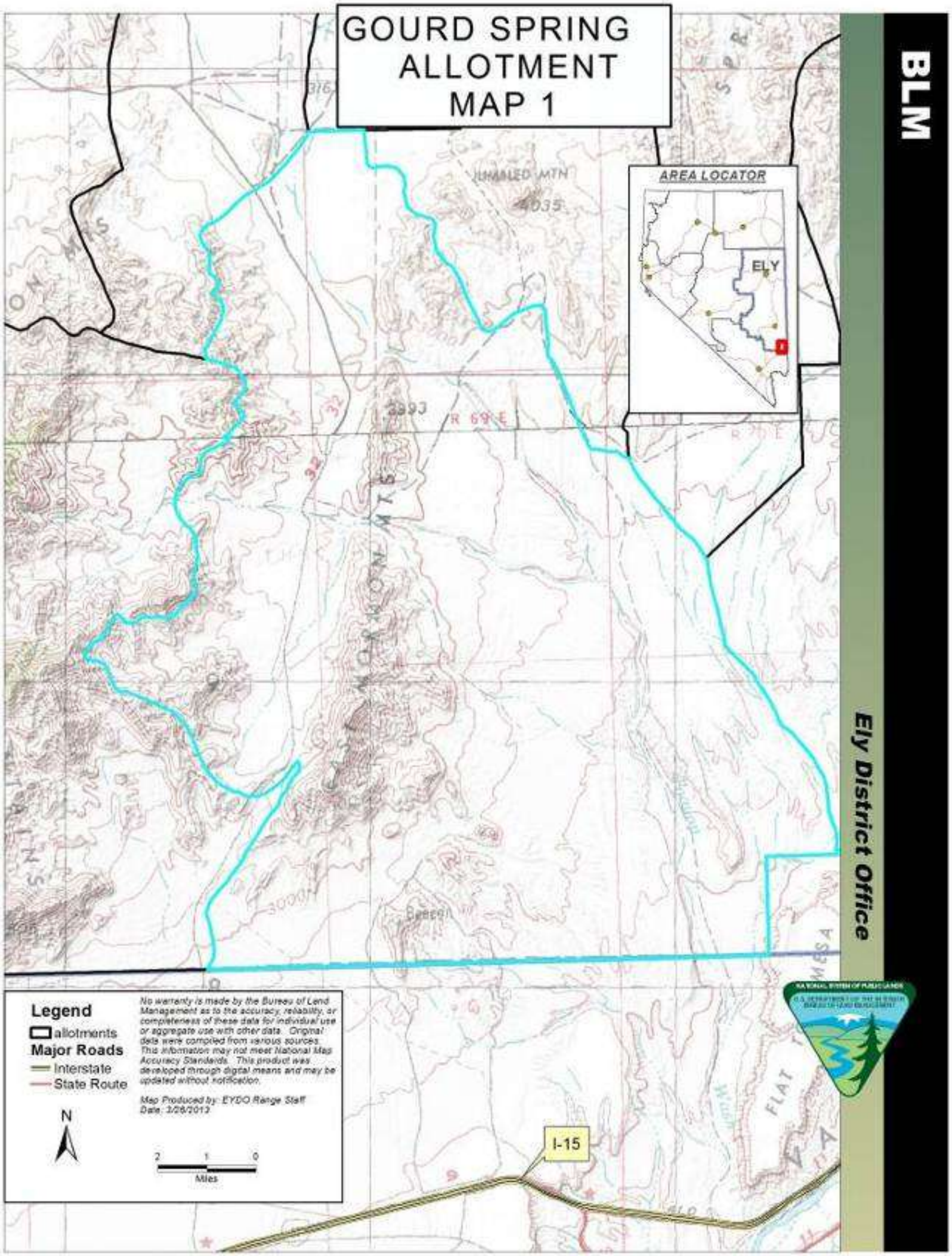
MAP(S)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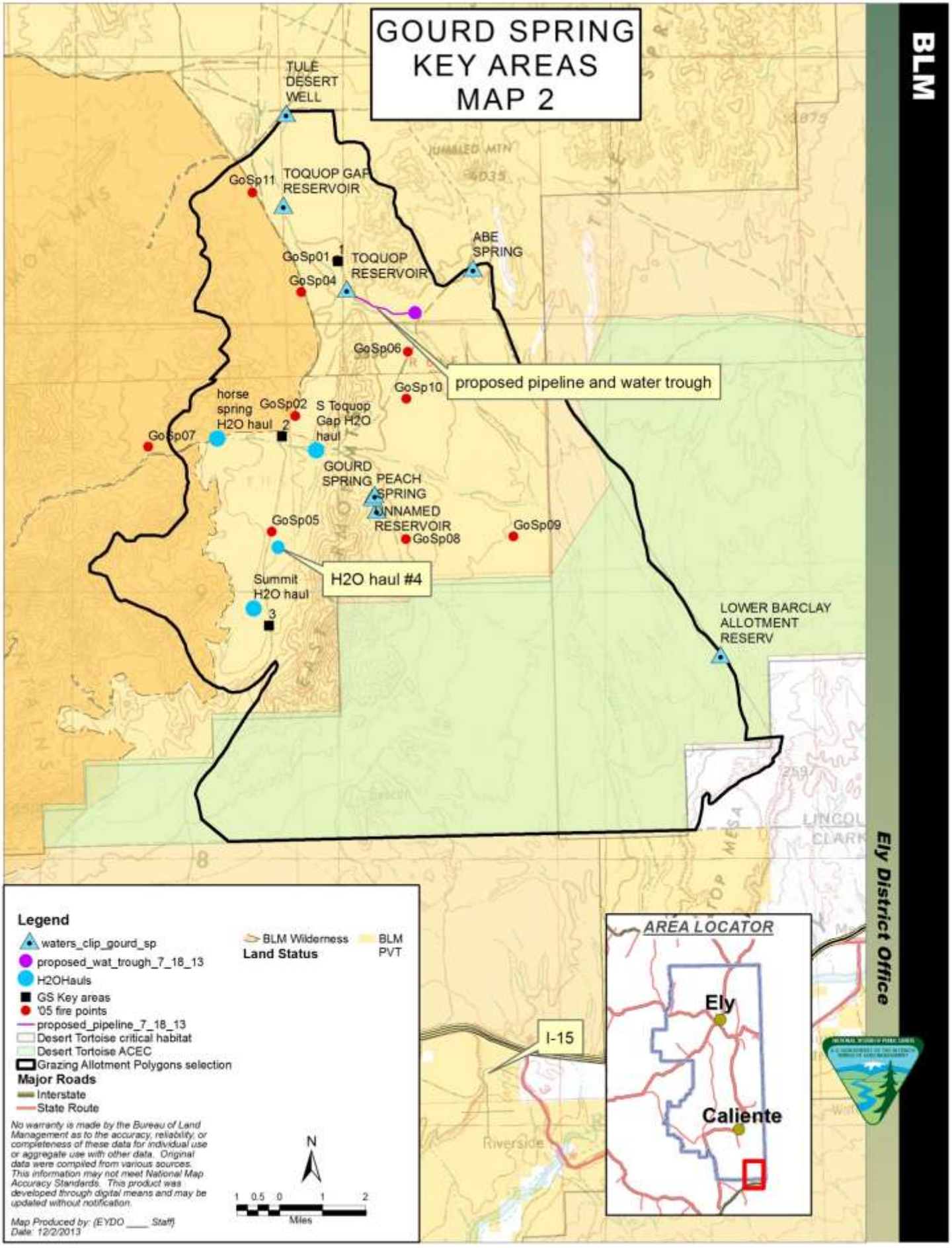
GOURD SPRING
KEY AREAS
MAP 2
BLM
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UNNAMED
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Desert Tortoise ACEC
Grazing Allotment Polygons selection
Major Roads
Interstate
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BLM Wilderness
Land Status
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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. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
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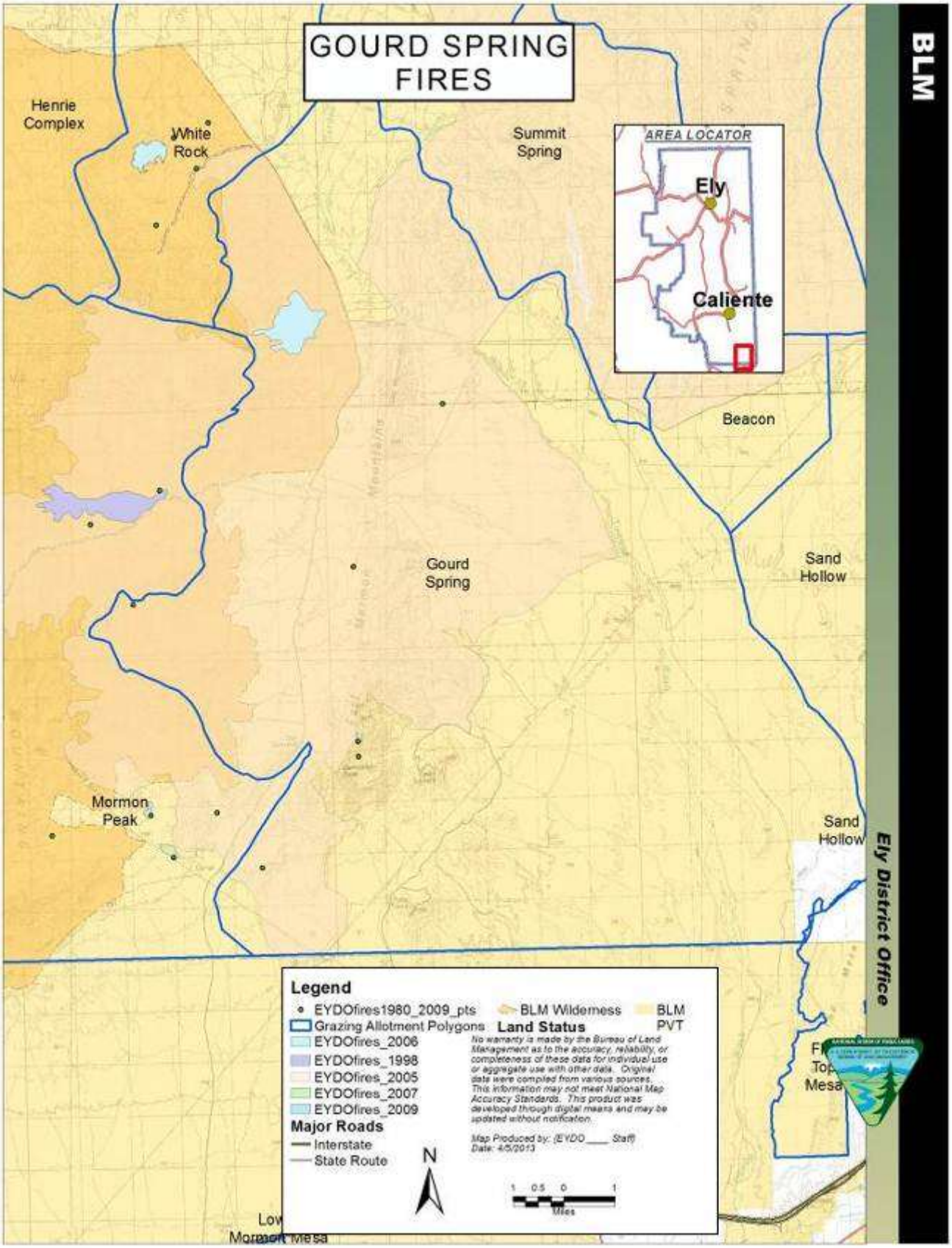
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White Rock
Summit Spring
AREA LOCATOR
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Caliente
Beacon
Gourd Spring
Sand Hollow
Mormon Peak
Sand Hollow
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Major Roads
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APPENDIX II

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STANDARDS DETERMINATION DOCUMENT

STANDARDS DETERMINATION DOCUMENT

Permit Renewals for Authorization Numbers 275108 and 2703753
On the Gourd Spring Allotment (#01071)

(DOI-BLM-NV-L030-2013-0003-EA)

Standards and Guidelines Assessment

The Mojave-Southern Great Basin Standards and Guidelines for grazing administration were developed by the Mojave-Southern Great Basin Resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997.

Standards of rangeland health 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. Guidelines are options that move rangeland conditions toward the multiple use Standards. Guidelines are based on science, best rangeland management practices and public input. Therefore, determination of rangeland health is based upon conformance with these Standards. Thus Guidelines indicate the types of grazing methods and practices for achieving the Standards for multiple use, are developed for functional watersheds and implemented at the allotment level.

This Standards Determination Document evaluates livestock grazing management and achievement of the Standards and Guidelines for the Gourd Spring Allotment. It does not evaluate or assess the Standards or Guidelines for Wild Horses and Burros. Publications used in assessing and determining achievement of the Standards include: Ely Record of Decision and Approved Resource Management Plan (RMP; Bureau of Land Management 2008); Sampling Vegetation Attributes(U.S. Forest Service et al. 1996); National Range and Pasture Handbook Natural Resources Conservation Service (NRCS) 1997; Nevada Rangeland Monitoring Handbook; Utilization Studies and Residual Measurements (U.S. Forest Service et al.1999); Nevada Plant List (NRCS 1998); and Major Land Resource Area (MLRA 29 and MLRA 30) Rangeland Ecological Site Descriptions (NRCS 2002;2003). A complete list of references is included at the end of this document. These documents are available for public review at the Caliente Field Office during business hours.

The Gourd Spring Allotment, a land-based allotment having two permittees, is located in southern Lincoln County, Nevada. It is approximately 50 miles south of Caliente, Nevada and approximately 10 miles northwest of Mesquite, Nevada (Appendix A, Map #1). It is located within the Toquop Wash Watershed, and is approximately 97,700 acres in size. Cattle and horses are the types of livestock grazed on the allotment. Elevations range from approximately 2,400 feet along the eastern boundary to approximately 5,300 feet in the East Mormon Mountains in the central portion of the allotment.

Neither the allotment nor any of its portions are located within a Wild Horse Herd Management Area (HMA) or Wilderness Study Area. However, the western portion of the allotment (about 13,000 acres) is in the Mormon Mountain Wilderness. The allotment also contains habitat for the federally threatened desert tortoise (*Gopherus agassizii*) (Appendix A, Map #2). The Mormon Mesa Area of Critical Environmental Concern (ACEC) includes 39,852 acres of desert tortoise critical habitat within the allotment. Another 2,981 acres of desert tortoise critical habitat is located within the allotment but outside of the ACEC boundary. The ACEC acreage was closed to grazing in 2000 with the signing of the Record of Decision for the Caliente Management Framework Plan Amendment.

There are three known developed springs (Abe Spring, Gourd Spring and Peach Spring) that service livestock watering locations on the allotment. There are no riparian areas associated with these springs. The Sams Camp pipeline provides water to the northern portion of the allotment. In addition reservoirs are used to collect runoff in favorable years and water hauling is used to service the rest of the allotment.

Key Areas

Three key areas (KAs) were originally established on the Gourd Spring Allotment in 1981. A key area is a relatively small portion of a pasture or allotment selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that key areas, if properly selected, will reflect the current grazing management over the pasture or allotment as a whole (NRCS 1997). Key areas represent range conditions, trends, seasonal degrees of use, and resource production and values.

The key areas, range improvements and water locations are depicted on Map 2 within the Gourd Spring allotment. Supplemental study sites, also shown on Map 2, were selected to represent major soil types within the allotment. These study sites are not key areas, but were chosen in effort to assess recovery of rangeland health in the entire allotment following the 2005 Halfway Fire, not just key forage or use areas. While these sites are not considered key areas they do represent major ecological sites on the allotment. The key areas and transects map in Map 2 depicts the locations of these supplemental study sites.

The Key Species Method was used in determining grazing use according to the Nevada Rangeland Monitoring Handbook (2006). This method is based on percent utilization of current year's growth, by weight.

However, due to the fires of 2005 the burned portions of the allotment are lacking in perennial grasses. These burn areas are represented by Key Areas 1 and 2. The utilization data does not represent the total forage use. In light of this information field observation in April 2013 found that livestock are selecting for annual grasses and other invasive species. Research suggests this may be helping the few perennial species remaining to have an opportunity to produce seed. Cover data were obtained using Line Point Intercept and Line Intercept Methods. These methods are described in Monitoring Manual for Grassland, Shrub land and Savanna Ecosystems (J. Herrick et. al., 2005).

Permits # 2703753 & 275108 were previously issued under the authority of Section 416, Public Law 111-88 for the period 3/1/2013 – 9/30/2013. The new grazing permit will reflect terms and conditions in accordance with the Final EA.

Table 1. Current Term Grazing Permits, with Mandatory Terms & Conditions for the Gourd Spring Allotment:

ALLOTMENT		Authorization Num.	LIVESTOCK		GRAZING PERIOD		** % Public Land	AUMs		
Name	Number		* Number	Kind	Begin	End		Active Use	Hist. Susp. Use	Total Use
Gourd Spring	01071	275108	207	cattle	10/1	5/31	100%	1661	0	1661
			9	horses	10/1	5/31	100%	72		72
	01071	2703753	207	cattle	10/1	5/31	100%	1661	0	1661
			9	horses	10/1	5/31	100%	72		72

* These numbers are approximate
** This is for billing purposes only.

Table 1 shows the authorized use on the Gourd Spring allotment. Annual livestock grazing use for authorization numbers 275108 and 2703753 on the Gourd Spring Allotment is found in (Appendix B, Table 1).

Fire History

Since the 1980s several fires have burned portions of the Gourd Spring allotment (see Gourd Spring fire map). According to Ely District's fire data several fires have burned over the same ground within the last 30 years. The management concern on the allotment is that repeat fires have almost eliminated the native Mojave vegetation in those areas and may be a factor in the ability to recover to pre-fire Mojave ecosystem. In 2005 the Halfway Fire burned a large portion of the allotment (38,321 acres) and 7 additional study plots were established to monitor fire rehabilitation (Map 2).

The Halfway Fire of 2005, the largest fire on the allotment, burned some 38,321 acres within the allotment. This fire was lightening caused and the primary fuel source was invasive annual grasses *(Bromus spp.)*. This fine fuel enables rapid fire spread which was exacerbated by winds. Fire policy and tactics at the time were not well suited for fire in this environment and constraints were in place due to concern of desert tortoise habitat. The fires of 2005 proved to be a learning experience for the BLM and the U. S. Fish and Wildlife Service (FWS). The outcome resulted in changes in firefighting tactics for the Mojave Desert and desert tortoise habitat. Due to the enormous amount of burned area nationally in 2005, and the lack of suitable seed, there were no reseeding efforts on the Gourd Spring Allotment.

In 2008 there was one demonstration project, on an adjacent allotment (Snow Springs) which worked towards burn area recovery. This small scale project involved the planting of seedlings in demonstration plots. Spiny Hop Sage (*Greyia Spinosa),* four-wing saltbrush *(Atriplex Canescens)* and Blackbrush *(Coleogyne ramosissima)* seedlings were planted during the spring. The seedlings were hand watered for approximately one month after planting. This project had a success rate of approximate 30% survival rate on the 4-wing saltbrush, with less than 5% survival rate on the other two species.

Past research indicates that successful restoration in the Mojave Desert is limited and that broadcast seeding of native species is ineffective except on favorable years and that planting seedlings in combination with irrigation has proven to be successful on a small scale (Abella et al. 2012). However, this method is impractical and cost prohibitive on a large scale such as would be needed for the 2005 Halfway Fire.

Currently the most viable option for restoring degraded or lost ecological functions is to plant non-native species that are adapted to the climate conditions and can fulfill or help to restore lost ecological functions, including fire regime and thermal cover for tortoise (Bowns et al. 2013). It is possible that introduction of more competitive non-native species could achieve restoration, but success would be more likely through an integrated approach as directed by the principles of pest management. This would not only include the use of non-native species, but may also incorporate the use of prescribed burning, chemicals, and mechanical methods for maintaining historic fire frequency.

Figures 1-3 are photos taken at the 3 key areas for comparison prior to and after the 2005 Halfway Fire.

Figure 1. Key Area 1 pre fire (January 2003) Key Area 1 post fire (June 2013)

Figure 2. Key Area 2 pre-fire (January 2003) Key Area 2 post-fire (June 2013)

Figure 3. Key Area 3 pre-fire (January 2003) Key Area 3 post-fire (June 2013)

The preceding photos illustrate a drastic change in the vegetation at each of these key areas. This type change is typical in the majority of the burned portions of the allotment. Of note, Key Area 2 was burned in 1992, the photo illustrates some recovery in 2003 but the subsequent fire in 2005 eliminated all native perennial grasses and most of the perennial shrubs from the site. Key Area 3 shows reestablishment of desert peach, purple three awn and big galleta. Higher elevation burn areas tend to be more resilient and are showing a higher level of recovery.

The following is an analysis of monitoring data which were used to evaluate applied management practices during the evaluation period. These data were used in determining if such management practices yielded results that were in conformance with the Mojave - Southern Great Basin Standards.

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); and
- Compaction/infiltration.

Riparian soil indicators:
- Stream bank stability.

All of the above upland indicators have been deemed appropriate to the potential of the ecological site.

Determination:
- ☐ Achieving the Standard
- ☐ Not achieving the Standard, but making significant progress towards meeting the Standard.
- **X Not achieving the Standard, not making significant progress towards meeting the Standard.**

Causal Factors:
- ☐ Livestock are a contributing factor to not meeting the standard.
- **X Livestock are not a contributing factor to not meeting the standard.**
- **X Failure to meet the standard is related to other issues or conditions.**

Guidelines Conformance:
- **X In conformance with the Guidelines**
- ☐ Not in conformance with the Guidelines

Soil Mapping Units and corresponding Rangeland Ecological Site Descriptions, as determined by the NRCS, combined with professional field observations were used to determine the ecological site represented by each key area. Approximately 60% of the allotment which is open to grazing burned in the "Halfway" Fire in 2005. There has been little recovery in the majority of the burned area when compared to the Mojave Potential Natural Community (PNC), there has been a great influx of invasive annual grass (*Bromus spp.*) with limited re-establishment of the native perennial grasses. Several shrub species have re-sprouted in the burn including; Nevada ephedra; desert almond; wolf berry; creosote; and rabbit brush.

The following photos (Figures 4-6) show the vegetation and soil surface characteristics of each of the key areas (January 2012).

Figure 4. Key Area 1 showing existing vegetation.

Key Area 1 is located soil map unit 1340 which is described as a Claypan receiving 5-7" of precipitation. Range site (030XB043NV) Latr/Plri (*Larrea tridentate*/*Pleuraphis* rigida) Slopes are 2-4% with soil surface comprised of gravelly sandy loam.

The range site description allows for a maximum of 3% annual grasses. This site has 80-90% annual grasses after the fires with minimal shrub re-sprouting and few perennial grasses have re-established. This site is not showing progress toward meeting the standards.

Figure 5. Key Area 2 showing existing vegetation.

Key Area 2 is located in soil map unit 1300 with a range site of (R030XB029NV_1) Cora/Plri (*Coleogyne ramosissima* /*Pleuraphis* rigida) with shallow gravelly loam and within a 5-8" precipitation zone.

This site is highly departed from the ESD, which originally shows a blackbrush site. There is regeneration of desert almond, wolfberry, ephedra and snakeweed, however there is no recovery of perennial grasses or blackbrush. This site is not making progress toward meeting the standard.

Figure 6. Key Area 3 showing existing vegetation.

Key Area 3 is located in soil map unit 1300 with a range site of (R030XB029NV_1) Cora/Plri containing shallow gravelly loam and within a 5-8" precipitation zone.

Blackbrush is not re-establishing at this site, however shrubs and perennial grasses are re-establishing at a greater rate when compared to other burned blackbrush sites within the allotment, see Figure 6 above, which indicate significant progress toward meeting the standard.

Table 2 includes comparison summary of cover data, collected at each key area on the Gourd Spring Allotment, to the potential natural community (PNC) for the applicable range site.

Table 2. Cover data at Key Areas

Key Area	Range Site	Associated Vegetation Type	% Cover Collected at Key Area	% Cover at PNC In Applicable Rangeland Site Description
KA-1	* 030XB043NV	LATR2/HIRI	2.9%+	10%-20%
KA-2	*030XB029NV	CORA/HIRI	1%+	20%-35%
KA-3	* 030XB029NV	CORA/HIRI	7.5%+	20%-35%

* Based upon Soil Mapping Units as provided by the Natural Resource Conservation Service (NRCS).
+ Collected in June 2013.

Conclusion: *Standard 1 Not achieved*

According to the site description applicable to the key areas, potential ground cover (basal and crown) should range between 10–35%. As the above table shows, cover values at each key area is lower than the range listed in the ESD.

An allotment inspection on June 24, 2013 showed that only one key area (KA-3) had adequate "key species" to take utilization according to protocol. The utilization on big galleta (*Pleuraphis* rigida), was at slight to light use levels and on Arpu9 (purple three awn) there was no use. At Key Area 2 no perennial grasses were present to measure utilization; however two ephedra plants (*Ephedra nevadensis*) indicated light to moderate use levels. At Key Area 1 several big galleta plants were present, the first protected by a cage and the second showing heavy to severe use.

Of the six supplemental study sites (fire monitoring points) visited, two points had no perennial grasses; two had no utilization on the perennial grasses; one had slight use and one had heavy to severe use. According to field observation by Caliente Field Office range staff, grazing on the Gourd Spring Allotment is predominately on annual forage (red brome and red stem storks bill).

Field observations on the allotment have shown that soils were stable, native plants were not pedestalled and there were no signs of soil compaction. Soil cover (from perennial plants) at all key areas was less than the "site description", at present the soils are protected with litter from the annual grasses which protect the soil from erosion however it does little to aid in the soil's nutrient cycling. The soil has little chance to reestablish potential natural community type due to the presence of invasive annual grasses and their advantageous use of resources and increased fire return interval which adversely impact the native seed bank.

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

    - Width/Depth ratio;
    - Channel roughness;
    - Sinuosity of stream channel;
    - Bank stability;
    - Vegetative cover (amount, spacing, life form); and
    - Other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water quality indicators:

- Chemical, physical and biological constituents do not exceed the state water quality standards.

Determination:

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

Causal Factors:

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

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

Guidelines Conformance:

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

Conclusion: *Standard 2*

Upland Ecosystem Components – *Not Achieved*
Riparian Habitat Components – *Not Applicable due to development of all water sources*

Uplands

Data and field observations relating to soils, hydrologic processes, canopy and ground cover (including litter and rock) were discussed in Standard 1 which was not achieved. Observed live vegetation species are discussed in Standard 3.

The unburned portion of the allotment supports a healthy, diverse variety of native shrubs with a small component of perennial forbs and grasses. The burned portion of the allotment is dominated by invasive annual grasses. The fluctuating amount of annual grass on the allotment does help in protecting the soil from rain drop action but does little in the way of nutrient recycling.

Currently, some ecological processes are functional; soils are stable and are protected from erosion, forage is available and thermal cover continues to improve for desert tortoise. However, some ecological processes will continue to be out of balance and a threat to the system as long as invasive annual grasses dominate the system; altering nutrient cycling and the disturbance regime. Grazing is the only practical tool currently in use to address unprecedented fuel loading in the Mojave Desert ecosystem.

Riparian

Not applicable

There are no known riparian areas associated with the three springs within the Gourd Spring Allotment. Therefore, it would be unlikely that these springs would support riparian species in its pristine condition. Abe, Gourd and Peach Springs have been highly developed. It should be noted that Gourd and Peach Springs areas lack saturation at or near the surface and is not inundated by water at or near the surface. Gourd Spring produces about 1.5 gallons/minute, into a metal tank located 100 yards down the slope from the spring. (Figures 7 and 8 below) Peach Spring is not currently providing water at the development. All three springs have been fenced to exclude livestock.

Figure 7. Water trough at Gourd Spring

Figure 8. Gourd Spring fenced area

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; and
- Vegetation nutritional value.

Wildlife indicators:

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

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

Determination:

☐ Achieving the Standard
☐ Not achieving the Standard, but making significant progress towards meeting the Standard.
X Not achieving the Standard, not making significant progress towards meeting the Standard.

Causal Factors:

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

Guidelines:

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

Allotment monitoring revealed at least 14 perennial species of shrubs; six perennial species of grass, a variety of perennial forb species, and five different species of cactus distributed in a patchy network within the allotment. The following table displays these observations.

Table 3. Species diversity list for Gourd Springs Allotment

Shrubs	Grasses	Forbs	Cacti & Yucca
blackbrush (*Coleogyne ramosissima*)	big galleta (*Pleuraphis* rigida)	desert globemallow (*Sphaeralcea ambigua*)	Cholla (*Opuntia spp.*)
Cheesebush (*Hymenoclea salsola*)	fluffgrass (low whollygrass) (*Dasyochloa pulchella*)	desert trumpet (*Eriogonum inflatum*)	hedgehog cactus (*Echinocereus engelmannii*)
Turpentine broom (*Thamnosma montana*)	Indian ricegrass (*Achnatherum hymenoides*)	Buckwheat species (*Eriogonum* sp.)	Beavertail (*Opuntia basilaris*)
creosote bush (*Larrea tridentata*)	Sand dropseed (*Sporobolus* sp.)	Penstemon sp. (*Penstemon* sp.)	prickly pear (*Opuntia spp.*)
Virgin River brittlebush (*Encelia virginensis*)	squirreltail (*Elymus elymoides*)	Indian paintbrush (*Castilleja* sp.)	Barrel cactus (*Ferrocactus cylindraceus*)
Nevada ephedra (*Ephedra nevadensis*)	Purple three-awn (*Aristida purpurea*)	Evening primrose (*Oenothera* sp.)	
Indigo bush (*Psorothamnus fremontii*)		Desert marigold (*Baileya multiradiata*)	banana yucca (*Yucca baccata*)
snakeweed (*Gutierrezia spp.*)		Mariposa lily (*Calochortus* sp.)	Joshua tree (*Yucca brevifolia*)
white bursage (*Ambrosia dumosa*)	Six weeks fescue (*Vulpia octiflora*)	Easterbonnets (*Eriophyllum* or *Antheropeas* sp.)	Clark Mountains agave *(Agave utahensis* var. *nevadensis*)
Desert almond (*Prunus fasciculata*)	Red brome (*Bromus madritensis*)	Blue dicks (*Dichelostemma capitatum*)	
Anderson's wolfberry (*Lycium andersonii*)		Gilia species (*Gilia* spp.)	
spiny hopsage (*Grayia spinosa*)		Stork's bill (*Erodium cicutarium*)	
Four wing saltbush (*Atriplex canescens)*		Pepperweed (*Lepidium* sp.)	
Paper bag bush (*Salazaria mexicana*)		White forget-me-nots (*Cryptantha* spp.)	
		Milkvetches (*Astragalus* spp.)	
		Bristly fiddleneck (*Amsinckia tessellata*)	
		Rattlesnake weed (*Euphorbia* or *Chamasyce* sp.)	
		Lupine (*Lupinus* sp.)	
		Mustard species	
		Russian thistle (*Salsola tragus*)	
		Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*)	

Figure 9. Plant with root damage by rodents.

Figure 9 illustrates a Paperbag bush (*Salazaria mexicana*) with root damage by rodents, and the many rodent mounds and trails observed throughout the allotment. No perennial grasses were found in this area. Native perennial grasses have been impacted by the predation of seed and seedlings by rodents (Anderson et al 2001).

Conclusion: *Standard 3 Not Achieved*

Habitat indicators for Standard 3 refer to vegetative composition, structure, distribution, productivity, and nutritional value. Vegetative conditions on the Gourd Spring Allotment within the burned portion do not reflect these attributes, however in those portions which have not burned (approximately 13,000 acres) these attributes are present.

Field observations revealed a diversity of vegetation types that are distributed in a patchy nature across the landscape within the unburned portions of the allotment. Observations indicate that species composition for each occurring range site is lacking the perennial grass and shrub diversity/component within the burned areas of the allotment.

A variety of forb species were noted on the allotment providing a diverse and productive forage base for livestock and wildlife as well as desert tortoise. Nevada ephedra, bud sagebrush, Indian ricegrass, galleta and squirreltail are known to be nutritious, palatable plant species for livestock and wildlife. Desert tortoise use many of the shrubs found on the allotment for thermal cover and consume a variety of the forbs such as desert globemallow (*Sphaeralcea ambigua*), desert trumpet (*Eriogonum inflatum*), and Easterbonnets (*Eriophyllum* sp. and *Antheropeas* sp.; Avery 1998; Burge 1978). The native species present in the unburned areas of the allotment will also provide a seed source for those portions of the allotment which have burned. Field observations indicate that cattle prefer foraging on invasive annual species including brome grass, filaree, and Russian thistle over the perennial grasses. The browsing preference cattle exhibit for non-native annuals observed by range staff and the permittee favor perennial plants by reducing competition

for resources, reducing fire severity and allowing for greater productivity. Figure 10 shows a cage (Study Site #4, Map 2) which has not been moved in two years and shows the accumulation of fine fuel inside the cage while the area outside the cage shows less accumulation of fine fuel due to grazing by livestock.

Figure 10. Cage at Study Site 2 with accumulation of fine fuel

An extensive rehabilitation of the area may be required to promote plant productivity and ensure appropriate vegetative structure and diversity.

The various plant communities within the unburned portion of the allotment provide escape terrain and thermal cover for wildlife. The southwest end of the allotment shows good re-establishment of shrub species at the higher elevations of the burned area. The mix of short and tall statured woody species create perching/nesting habitat for the avian community. These habitats also offer a desirable environment for a variety of small mammals and reptiles.

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

Livestock are not a contributing factor to not meeting the standards.

Failure to meet standards is the result of invasive annual grasses which develop abnormal fuel loading and continuity for the region. The Mojave Desert ecosystem is considered an infrequent fire-type with a natural fire return interval of greater than 500 years (Brooks 2000). Increased fuel loading allows for catastrophic high severity fires which result in nearly 100% plant mortality. Recovery from fire in this arid ecosystem is extremely slow and will be unobtainable without effectively addressing the increased fire return interval and increased fire severity. However, even within a historic fire regime, the recovery of blackbrush will not occur given the current climate regime and these former blackbrush sites will continue to be dominated by

invasive annuals (Bowns 2013). The introduction of non-native species should be considered as a restoration technique.

PART 3. GUIDELINE CONFORMANCE REVIEW and SUMMARY

GUIDELINES for *SOILS* (Standard 1):

See Conclusion for Standard 1, and Part 2 above.

Current livestock grazing management practices conform to Guideline 1.1. The remaining three Guidelines are not applicable to the assessment area at this time.

GUIDELINES for *ECOSYSTEM COMPONENTS* (Standard 2):

See Conclusion for Standard 2, and Part 2 above.

Uplands

Current livestock grazing management practices conform to Guidelines 2.3 and 2.4. The remaining six Guidelines are not applicable to the assessment area at this time.

Riparian

There are three known springs found within the Gourd Spring Allotment, all of which are developed with pipeline and troughs, they are all fenced to exclude livestock. Therefore, Standard 2 and associated Guidelines, regarding the riparian portion of this standard, are not applicable.

GUIDELINES for *HABITAT AND BIOTA* (Standard 3):

See Conclusion for Standard 3, and Part 2 above.

Current livestock grazing management practices conform to Guidelines 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6. The remaining three Guidelines are not applicable to the assessment area at this time.

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

- Place 40% of AUMS into voluntarily non-use for the management of annual non-native grasses resulting in fine fuels, while the remaining 60% will remain in Active Use for a period of 10 years in the Gourd Spring Allotment. Voluntary non-use of AUMs is for fuels management purposes and is not a permanent revocation of grazing privileges.

- Voluntarily non-use AUMs will be determined on an ANNUAL BASIS, and be available through temporary nonrenewable grazing (§ 4110.3-1 (a)), if resource conditions require reduction of fine fuels buildup. Annual use of any AUMs in voluntary non-use must be evaluated by the ID Team and approved by the Authorized Officer.

- Maintain the current season of use (10/1-5/31).

- Extend the Sam's Camp pipeline approximately 2 miles east of the East Mormon Mountains, and north of Toquop Gap, and establish additional watering locations.

- Establish test plots of up to 5 acres to determine if desirable perennial plants (native or introduced) which can be successfully established in this portion of the Mojave Desert. Establish fire resistant strip plantings to aid in fire control (Harrison et al 2002).

- Retain and repair the temporary fence east of the Carp/Elgin road and convert it to a permanent range improvement, to help in the distribution of livestock.

- Construct gap fences on south end of allotment boundary.

Incorporate the following Best Management Practices into the new Term Grazing Permits:

1. Allowable Use Levels on current year's growth of upland vegetation (perennial grasses, forbs and shrubs) within the Gourd Spring Allotment will not exceed 40%.

2. Watering locations will be rotated, to better distribute the livestock throughout the allotment.

3. Water hauling will be limited to existing roads. No roads will be bladed or improved in any way, with mechanical equipment, without the expressed consent of the authorized officer.

Measures from the Programmatic Biological Opinion for the Bureau of Land Management's Ely District Resource Management Plan (File No. 84320-2008-F-0078):

4. 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.

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

6. Desert tortoises shall be treated in a manner to ensure that 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 95ºF. Ambient air temperature will be measured in the shade, protected from wind, at a height of 2 inches above the ground surface. No desert tortoise will be captured if the ambient air temperature is anticipated to exceed 95ºF before handling and relocation can be completed. If the ambient air temperature exceeds 95ºF during handling or processing, desert tortoises will be kept shaded in an environment that does not exceed 95ºF and the animals will not be released until ambient air temperature declines to below 95ºF.

7. 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.

8. 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.

9. 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/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.

10. 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 permits for those allotments that overlap with habitat for the listed species.

11. 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.

12. 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.

13. 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 0.5 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 0.5 mile from riparian areas.

14. 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.

15. 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 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.

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Specialists:

Alicia Styles – Wildlife Biologist	Date
Clinton Wertz – Soil, Water & Air Quality, Floodplains & Riparian	Date
Cameron Boyce – Noxious and Invasive Weeds	Date

Prepared by:

Daniel Condie – Rangeland Management Specialist	Date

Reviewed by:

Chris Mayer – Supervisory Rangeland Management Specialist	Date

I concur:

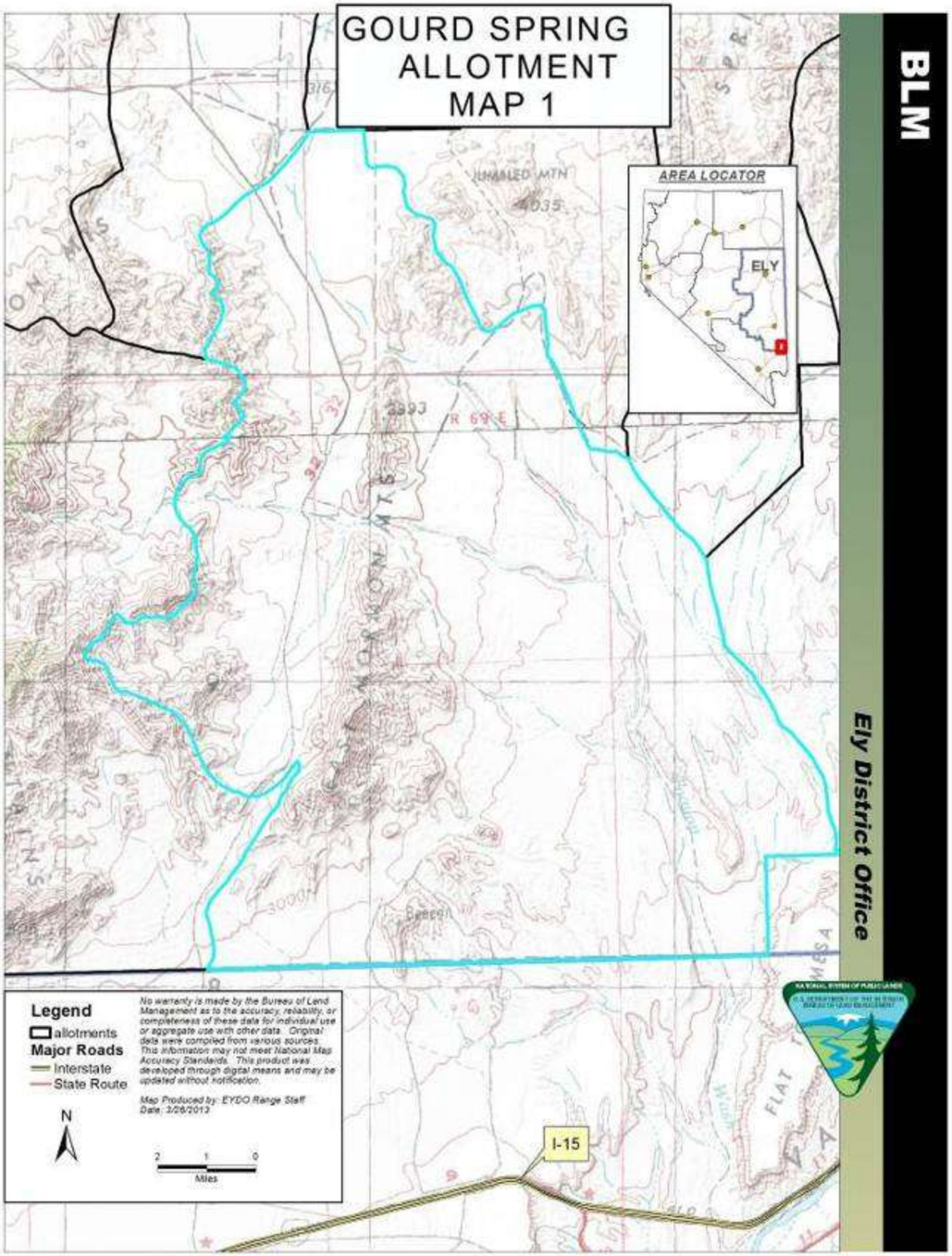
Victoria Barr – Caliente Field Manager	Date

MAPS

APPENDIX A

(Standards Determination Document)

MAPS 1-3


GOURD SPRING ALLOTMENT MAP 1
BLM
Ely District Office
AREA LOCATOR
ELY
UNNAMED MTN
4035
R 69 E
I-15
Legend
allotments
Major Roads
Interstate
State Route
N
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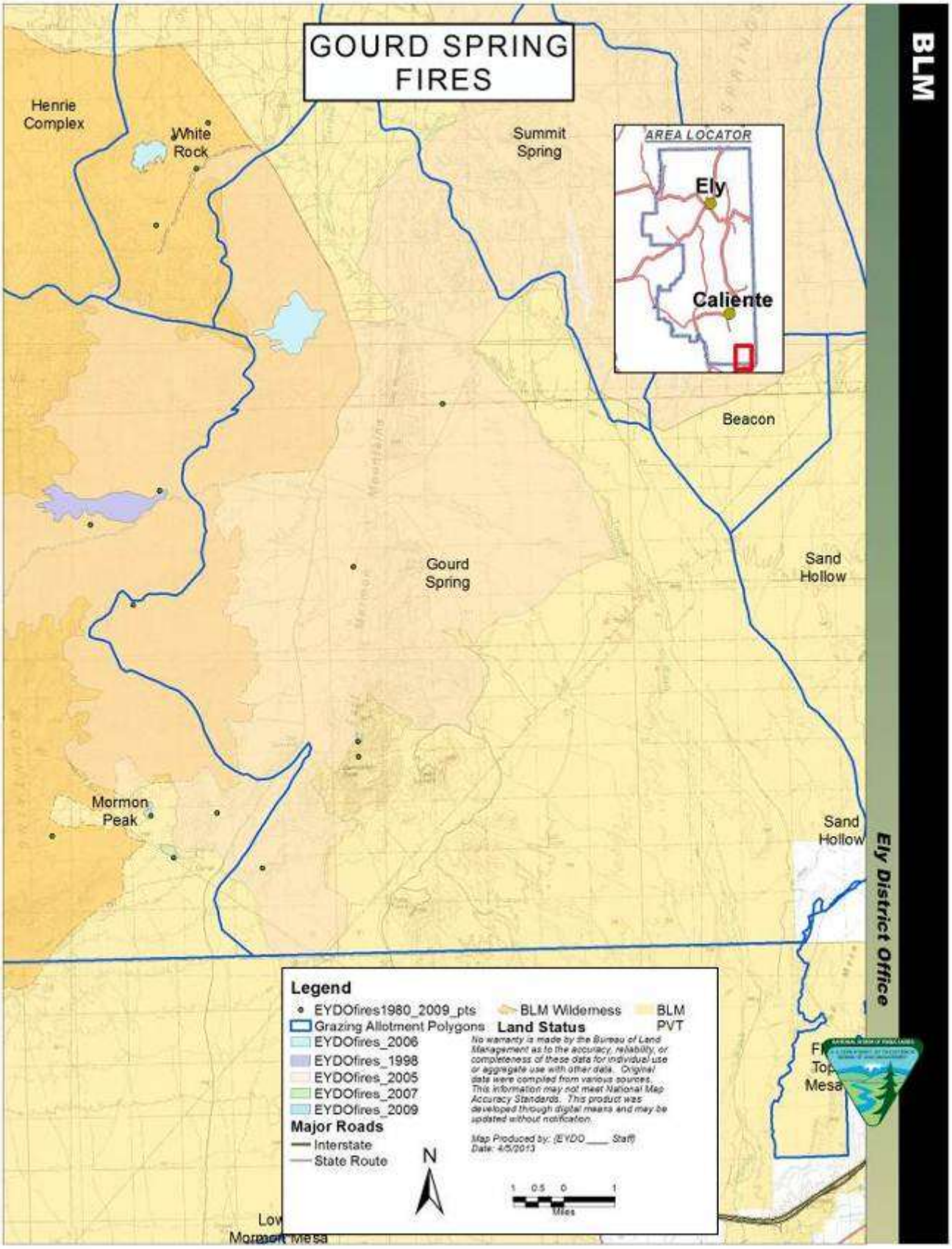
Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: EYDO Range Staff
Date: 3/26/2013


GOURD SPRING FIRES
Henrie Complex
White Rock
Summit Spring
AREA LOCATOR
Ely
Caliente
Beacon
Gourd Spring
Sand Hollow
Mormon Peak
Sand Hollow
Mesa
Legend
EYDOfires1980_2009_pts
Grazing Allotment Polygons
EYDOfires_2006
EYDOfires_1998
EYDOfires_2005
EYDOfires_2007
EYDOfires_2009
Major Roads
Interstate
State Route
BLM Wilderness
Land Status
BLM
PVT
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. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: (EYDO ____ Staff)
Date: 4/5/2013
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Miles
Mormon Mesa
BLM
Ely District Office

APPENDIX B
(Standards Determination Document)

Annual livestock grazing use for authorization numbers 275108 and 2703753 on the Gourd Spring Allotment – as AUMs licensed each year by each permittee; total AUMs licensed each year on the allotment for both permittees; and, total AUMs licensed each year on allotment as a percent of the total Active Use of both permittees - from March 1, 2002 through February 28, 2013 (10 years). The table also displays the individual Total Active Use for both permittees and the Season of Use on the allotment.

Table 1- Licensed livestock use 2003-2012

Current Term Grazing Permit Information - - - - - - - - - - - - - - Permittees/Season of Use/Active Use	Grazing Year (10/1-5/31)	Permittee Authorization #	AUMs Licensed Each Year (by permittee)	AUMs Licensed Each Year as % of Total Active Use (by permittee)	Total AUMs Licensed Each Year on Allotment (all permittees)	Total AUMs Licensed Each Year on the Allotment, as a % of the Total Active Use for both Permittees
Gourd Spring season of use = 10/1 to 5/31 <u>Active Use</u> # 2703753 1729 AUMs #275108 1729 AUMs **TOTAL** **3480** AUMs	2003	2705107	354	20.4%	926	26.7%
		275108	572	33%		
	2004	2705107	481	27.5%	1449	41.8%
		275108	968	55.8%		
	2005	2705107	210	12.1%	753	21.7%
		275108	543	31.3%		
	2006	2705107	123	7.1%	324	9.3%
		275108	201	11.6%		
	2007	2705107	424	24.5%	1006	29%
		275108	582	33.6%		
	2008	2705107	538	31%	1561	45%
		275108	1023	59%		
	2009	2705107	591	34.1 %	1541	44.5%
		275108	950	54.8%		
	2010	2705107	677	39.1%	1643	47.4%
		275108	966	55.7%		
	2011	2705107/2703753*	363 & 1333*	97.8%	2418	69.8%
		275108	722	41.6%		
	2012	2703753	963	55.6%	1738	50.1%
		275108	775	44.7%		
AVERAGE						**38.5%**

*) Permit transferred to current permittee.

As the table indicates during the 10 year timespan, the total AUMs licensed each year on the allotment as a percent of the total active use of both permittees, ranged from 9% in 2006 to 70% in 2011 with an average of 38.5%. This indicates that the allotment has received moderate use over the past 10 years.

APPENDIX III

(EA)

STANDARD TERMS AND CONDITIONS

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 are consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing use.

2. The authorized officer is requiring that an actual use report (Form 4130-5) be submitted within 15 days after completing your annual grazing use.

3. 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.

4. 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.

5. 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.

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

7. 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.

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

9. The placement of mineral or salt supplements will be a minimum distance of 1/2 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

Gourd Spring Term Permit Renewal
Lincoln, Nevada

On March 22, 2014 a Noxious & Invasive Weed Risk Assessment was completed for the Gourd Spring Term Permit Renewal in Lincoln County, NV. The proposed action is to renew the grazing term permit for grazing permittees on the Gourd Spring Allotment. NEPA level is EA and grazing permit will be for ten years. A Standards Determination Document has been prepared as an in-depth analysis of grazing. An EA will be prepared and the proposed actions will be analyzed.

In addition to weed surveys in the field, the Ely District weed inventory data was consulted, which accurately reflected field observation. The following species are documented within the project area:

Brassica tournefortii	Sahara mustard
Onopordum acanthium	Scotch thistle
Tamarix spp.	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 2013.

A list of species undocumented in the District follows:

Arctium minus	Common burdock
Bromus rubens	Red brome
Bromus tectorum	Cheatgrass
Ceratocephala testiculata	Bur buttercup
Elaeagnus angustifolia	Russian olive
Erodium circutarium	Filaree
Halogeton glomeratus	Halogeton
Marrubium vulgare	Horehound
Salsola kali	Russian thistle
Sysimbrium altissimum	Tumble mustard
Tragopogon dubius	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, but is regularly treated by the permittees to prevent it dominance of the areas. Further spread is not a concern.

Scotch thistle has also been found within 3 miles of the project area. However, it is not prevalent and is easily identified and can be readily treated using spot treatments. The permittees are 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 historically.

Sahara mustard *(Brassica tournefortii)* is establishing in the region. In this region, it was first detected in the south near Las Vegas and is moving north following the prevailing winds and the Interstate 15 corridor. It has now been observed moving outward from the City of Mesquite with unmanaged OHV use. Currently Sahara mustard is located on the southernmost boundary of the Gourd Spring Allotment. This portion of the allotment has restricted grazing due to desert tortoise critical habitat and lack of improvements. Grazing would occur in this area only when Sahara mustard is undergoing vegetative growth. Turnout is in the early winter and cattle are removed before seed production. Cattle have been observed eating Sahara mustard early in its growth cycle, but preference appears to taper off as the plant matures. 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; especially in wet conditions. Because of Sahara mustard's rapid growth and ability to quickly out compete native plants, control of this species if 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 *(Bromus rubens)* and cheatgrass *(Bromus tectorum)* 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 be 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.

APPENDIX V

(EA)

Specific Management Guidelines for Range Improvements

within the Mormon Mountains Wilderness

Range Improvements on the Mormon Peak Allotment Located within Wilderness.

Improvement Name	Range Improvement. Project #	Improvement Type	Length within Wilderness (miles)*
F14 Mormon Mountain HMA Fence		Fence	0.4
Unknown Fence (T10S R68E S26,34,35)	570506	Fence	1.8

*****Measurements are calculated for the length that lies within the Wilderness boundary

Fences

Fences throughout the planning area require routine maintenance. Additional maintenance may be required due to damage from wildfires, animals, or intentional destruction.

For any single segment of pre-existing fence at least one-quarter mile from any designated motorized route and at least one-half mile in length, the use of the motorized vehicles or equipment may be allowed for replacement or repair to damage otherwise unpreventable through routine inspection and maintenance (i.e., destruction by wildfire, or extensive damage from livestock, wild horses and/or wildlife). It is anticipated that damage which would require the use of motorized equipment or vehicles to replace segments longer than one-half mile would not occur frequently. Alternative fence locations, materials, construction techniques, and the use of additional gates would be evaluated prior to authorizing more frequent use of motorized equipment or vehicles for fence that repeatedly requires repairs.

Additional Range Specific Management

Inspection and routine maintenance of range developments would be accomplished on foot or horseback. Management direction for the use of motorized equipment and vehicles for the maintenance and reconstruction of range developments would apply to those developments identified in this EA and which are included in a current decision or document (i.e., final multiple use decision, allotment management plan, grazing decision, permit, lease, or cooperative agreement).

All authorizations for the use of motorized equipment (e.g., chainsaw, generator, gas-powered posthole digger, etc.) or vehicles (e.g., ATV, truck, snowmobile, bulldozer, trackhoe etc.) would specify the type of vehicle and number of vehicle passes, the route(s) to be used and period of use for motorized equipment. The number of vehicle passes authorized would be based upon the minimum number necessary to safely accomplish maintenance objectives. The selection of vehicles to be used would be based upon readily available and cost-effective equipment which minimizes soil disturbance, compaction and resource damage. Approved motorized access would be confined to previously utilized routes except in cases where the potential for resource

damage is determined to be unacceptable; in such a case an alternate route may be identified. Some previously utilized routes have been restored to their natural condition in order to prevent unauthorized motorized use. It is anticipated that most repair or reconstruction of range developments requiring motorized vehicles would be accomplished with a single trip using one vehicle and trailer. For scheduled repair or construction, the use of motorized vehicles or equipment would be scheduled to minimize disturbance to riparian areas, soils, wildlife, and the visiting public.

Except in the case of emergency, permittees must obtain written authorization from the District Manager prior to using any motorized equipment or vehicles within the wilderness areas. For uses evaluated as part of this document, authorizations would typically be issued within one to two weeks from the time of request.

For the purposes of allowing motorized equipment and/or vehicles for grazing management, an emergency is defined as any unpreventable or reasonably unforeseeable set of circumstances which, without immediate action, would likely result in the death of livestock or result in long-term or irreversible impact to the wilderness resource. At a minimum, grazing permittees must obtain verbal authorization from the District Manager for each instance in which motorized equipment or vehicles are to be used in the wilderness. Verbal authorization must be followed up with a written authorization for the wilderness file. In the event that the District Manager is not immediately available, the permittee must notify the District Manager as soon as practicable but not later than 48 hours following the use of motorized equipment or vehicles.

Excerpt from BLM Manual 6340 – Management of Designated Wilderness Areas (Public) (July 13, 2012):

"8. Grazing

a. **Background.** The Wilderness Act, Section 4(d)(4)(2) 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 [administering agency]." In 1990, the House of Representatives issued House Report 101-405, Appendix A— Grazing Management Guidelines, in association with the Arizona Desert Wilderness Act of 1990. Although the Wilderness Act provides the authority for managing grazing in wilderness, this report (and its predecessor, House Report 96-1126, issued in association with the Colorado Wilderness Act of 1980) has been cited in many subsequent wilderness bills and provides helpful information. Grazing is specifically permitted in wilderness under Section 4(d)(4)(2) of the Act. After designation of an area as wilderness, Allotment Management Plans may need to be revised or developed for allotments within a wilderness to ensure they are consistent with this policy.

b. **Continuation of livestock grazing.** Where grazing of livestock has been authorized by a grazing permit or grazing lease for land within a wilderness, and the use was established

before Congress established the wilderness area, under Section 4(d)(4)(2) of the Act it "shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the [administering agency]." The continuation of existing grazing may apply to not only the utilization of the forage resource, but also the use and maintenance of livestock management developments and facilities that were associated with the grazing activity at the time of designation and have been authorized by the BLM. Grazing management activities, including the construction, use, and maintenance of livestock management developments, must comply with the BLM grazing regulations 43 CFR 4100, as well as this manual.

c. **Adjustments in levels of authorized use**

There will be no automatic reduction in the amount of livestock use permitted simply because an area is designated as wilderness. Reductions should be made only as a result of normal changes in grazing management based on range condition and in accordance with the BLM's grazing regulations. For example, an increase in the number of livestock may be permitted if it can be demonstrated that the increase will have no negative impact on wilderness character.

d. **Grazing facilities**

i. *Structures and installations used for livestock management existing at the time of designation* may be maintained. Maintenance may be done by the occasional use of motorized equipment where:

A. practical non-motorized alternatives do not exist; and

B. the motorized use is expressly authorized in the grazing permit and advanced written permission for each maintenance activity is granted by the BLM; and

C. the motorized use was allowed prior to wilderness designation.

In most situations, authorization for motorized use would be considered on a case-by-case basis—for example, to remove sediment from a stock reservoir. In some cases, a schedule could be established—for example, hauling water to fill a tank. In all cases, authorization should be for no more than is practically necessary to support the livestock grazing program and for actions that would not have a significant adverse impact on the natural environment. The use of an existing route and mode of travel also must cause the least impact on wilderness character and be similar to what was allowed prior to wilderness designation. These decisions are made during the grazing permitting process with the use of a Minimum Requirements Analysis, completed in conjunction with the associated NEPA analysis, through which alternatives are analyzed to determine the method

that least impacts wilderness character while remaining consistent with the rule of practical necessity and reasonableness in supporting the livestock grazing program. Actual authorization is granted, consistent with the NEPA analysis, in a letter of authorization. Authorizations need to be consistent with the Decision Document, including specified design features or mitigation measures and any specified follow-up actions. Authorizations will include exact travel routes to be followed by any motorized equipment or mechanical transport, as well as rehabilitation requirements.

Where practical alternatives to the use of motor vehicles exist—for example, using horses to distribute small quantities of salt or repair short sections of fence—the BLM will only authorize non-motorized activities.

ii. *Reconstruction or replacement of existing facilities* will require the use of natural materials if their use would not impose unreasonable added cost for the grazing permittee. An exception is when use of other materials would require less frequent motorized or mechanized access to perform maintenance.

iii. *New facilities* will be permitted by the BLM only for the purpose of enhancing the protection of wilderness character.

e. **Use of motorized equipment**. Except as allowed under sub-section 9.d [s*ic*], above, the use of motor vehicles, motorized equipment, or mechanical transport to carry out a lawful grazing-associated activity is limited to emergencies only, such as rescuing sick animals or placing feed in emergency situations. In emergencies, permittees do not need prior authorization for these uses, but must notify the BLM of their use reasonably soon thereafter. The use of motor vehicles, motorized equipment, or mechanical transport is not allowed for herding animals or routine inspection of the condition of developments or the condition of the range."

APPENDIX VI
(EA)

Wildlife and Plant Species

Wildlife & Plants for Gourd Spring Allotment 3/25/13

Highlighted species are BLM Sensitive Species in Nevada. Data accessed from Ely RMP, NV Natural Heritage Data, and NDOW Diversity Data.

The allotment contains the Beaver Dam Slope and Mormon Mesa critical habitat units for desert tortoise as well as general habitat for desert tortoise. The allotment also contains the Beaver Dam Slope and Mormon Mesa ACECs. Desert tortoise triangular transects (surveyed in 1980s to 1990) estimated densities from very low to low.

Federal T&E Species

Agassiz's desert tortoise (*Gopherus agassizii*) federally threatened

Wildlife

desert bighorn sheep (*Ovis canadensis nelsoni*) occupied habitat

banded Gila monster (*Heloderma suspectum cinctum*)

Mule deer (*Odocoileus hemionus*) general habitat

White-tailed antelope squirrel (*Ammospermophilus leucurus*)

Yellow-backed spiny lizard (*Sceloporus uniformis*)

Plants

Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*)

Clark Mountains agave *(Agave utahensis* var. *nevadensis*)

Migratory birds

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

American kestrel (*Falco sparverius*)

Black-chinned hummingbird (*Archilocus alexandri*)

Ash-throated flycatcher (*Myiarchus cinerascens*)

Black-tailed gnatcatcher (*Polioptila melanura*)

Blue-gray gnatcatcher (*Polioptila caerulea*)

Black-throated sparrow (*Amphispiza bilineata*)

Brewer's sparrow (*Spizella breweri*)

Bullock's oriole (*Icterus bullockii*)

Cactus wren (*Campylorhynchus brunneicapillus*

Common poorwill (*Phalaenoptilus nuttallii*)

Common raven (*Corvus corax*)

Costa's hummingbird (*Calypte costae*)

Gambel's quail (*Callipepla gambelii*)

Greater roadrunner (*Geococcyx californianus*)

Green-tailed towhee (*Pipilo chlorurus*)

Horned lark (*Eremophila alpestris*)

Le Conte's thrasher (*Toxostoma lecontei*)

Loggerhead shrike (*Lanius ludovicianus*)

Mourning dove (*Zenaida macroura*)

Mountain bluebird (*Sialia currucoides*)

Northern mockingbird (*Mimus polyglottos*)

Red-tailed hawk (*Buteo jamaicensis*)

Rock wren (*Salpinctes obsoletus*)

Turkey vulture (*Cathartes aura*)

Western kingbird (*Tyrannus verticalis*)

Western meadowlark (*Sturnella neglecta*)

Wilson's warbler (*Wilsonia pusilla*)

Western burrowing owl (*Athene cunicularia*)

Prairie falcon (*Falco mexicanus*)

Golden eagle (*Aquila chrysaetos*)

Sage thrasher (*Oreoscoptes montanus*)

Sage sparrow (*Amphispiza belli*)

Vesper sparrow (*Pooecetes gramineus*)

Violet-green swallow (*Tachycineta thalassina*)

White-crowned sparrow (*Zonotrichia leucophrys*)

Savannah sparrow (*Passerculus sandwichensis*)

Yellow warbler (*Dendroica petechia*)

Yellow-rumped warbler (*Dendroica coronata*)

Cliff swallow (*Petrochelidon pyrrhonota*)

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