

Cotant Seeding and Mexican Field Allotments Grazing Permit Renewal Environmental Assessment



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It is the mission of the Bureau of Land Management to sustain the health,
diversity, and productivity of the public lands for
the use and enjoyment of present and future generations.

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1.0 Introduction

The Bureau of Land Management (BLM), Tuscarora Field Office proposes to renew the grazing permit for the Cotant Seeding and Mexican Field Allotments in Elko County, Nevada (Map 1). This Environmental Assessment (EA) has been prepared for compliance with the National Environmental Policy Act (NEPA). This EA tiers to the Environmental Impact Statement (EIS) for the 1987 Elko Resource Management Plan (RMP), and incorporates by reference relevant portions of the Draft Standards and Guidelines for Rangeland Health Assessment for the Cotant Seeding and Mexican Field Allotments (BLM 2011a and b). These documents are available for review at the BLM Elko District Office, 3900 E. Idaho Street, Elko, NV 89801 775-753-0200.

In 2011, the BLM issued a Draft Standards and Guidelines for Rangeland Health Assessment for the Cotant Seeding and Mexican Field Allotments. In the Cotant Seeding Allotment Standards 1, 2 and 4 were determined to be met and Standard 3 was determined to be partially met. All Standards in the Mexican Field Allotment were determined to be met. Livestock grazing was determined to **not** be a causal factor in non-attainment of any standards in either allotment. The assessments summarized monitoring data collected following implementation of the 1994 Final Multiple Use Decision (FMUD) for the Cotant (and Mexican Field) Allotments (BLM 1994). Data collected since 1994 indicate that existing management is favorable and has provided for the attainments of multiple use objectives. This EA analyzes actions that could result in changes to terms and conditions of the permit for the Cotant Seeding and Mexican Field Allotments.

This EA along with a draft Finding of No Significant Impact (FONSI) will be sent to the interested publics for a review period and posted to the BLM website at: http://www.blm.gov/nv/st/en/fo/elko_field_office/blm_programs/grazing/cotant_seeding_mexican.html. After the review period BLM will then issue a Proposed Decision, a signed FONIS and issue the Final Determinations for the Cotant Seeding and Mexican Field Allotments Standards and Guidelines for Rangeland Health Assessment.

The BLM grazing regulations at 43 CFR 4130.3-1(c) require that grazing permits issued by the BLM contain terms and conditions that ensure conformance with BLM regulations at 43 CFR 4180, which are the regulations under which the Northeastern Great Basin Standards and Guidelines for Grazing Administration were developed.

1.1 Purpose and Need

The purpose of the action is to determine if livestock grazing on the Cotant Seeding and Mexican Field Allotments is consistent with laws, regulations, and policies. If approved the grazing permit needs to be renewed with terms and conditions for grazing use that would meet or maintain the Standards and Guidelines for Rangeland Health, Resource Management Plan goals and objectives, and other pertinent multiple use objectives for the allotments. There is also a need to modify the existing livestock grazing permit and existing terms and conditions for the Cotant Seeding and Mexican Field Allotments. Although determined to be effective in terms of meeting resource objectives and meeting Standards and Guidelines for Rangeland Health, the permittee has not been able to meet prescribed dates due to snow cover and road condition issues early in the spring. Additions and modifications to terms and conditions on grazing permits and incorporation of monitoring objectives would increase flexibility in implementing the grazing system but at the same provide for protection and maintenance of resource values. Title 43 CFR § 4130.2(a), effective March 24, 1995, states "Grazing permits or leases shall be

issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans.” The operator meets all of the qualifications to graze livestock on public lands administered by the BLM.

The decision to be made is to determine the conditions and limitations necessary to issue a grazing permit that will comply with the BLM’s statutory obligations as outlined in 43 CFR § 4130.2 (a) and multiple use mandate specified in Federal Land Policy and Management Act (FLPMA) of 1976, and conform to the Fundamentals of Rangeland Health (43 CFR § 4180), or not.

1.2 Relationship to Laws, Policies, and Plans

The Federal Land Policy and Management Act of 1976 (FLPMA) requires an action under consideration be in conformance with the applicable BLM land use plan, and be consistent with other federal, state, local and tribal policies to the maximum extent possible.

1.2.1 BLM Land Use Plan Conformance

The proposed action and alternatives conform to the following decisions of The Elko RMP, as approved March 11, 1987 (BLM 1987a).

Elko Resource Management Plan

1. Livestock Management (Elko RMP Record of Decision, page 20)
 - Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland values.
2. Wildlife (Elko RMP Record of Decision, page 29)
 - Conserve and enhance terrestrial, riparian and aquatic wildlife habitat.

1.2.2 Standards and Guidelines for Rangeland Health Conformance

The proposed action and alternatives would also continue to or provide for attainment or significant progress towards attaining the following Standards for Rangeland Health for the Northeastern Great Basin Area of Nevada approved on February 12, 1997. Only Standards 1-4 apply to Cotant Seeding and Mexican Field Allotments. Standard 5 applies only if wild horses or burros are located within a Herd Management Area (HMA); there is neither a HMA or wild horses or burros located within the Cotant Seeding or Mexican Field Allotments.

Standard 1. Upland Sites: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

Standard 2. Riparian and Wetland Sites: Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Standard 3. Habitat: Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet life cycle requirements of threatened and endangered species.

Standard 4. Cultural Resources: Land use plans will recognize cultural resources within the context of multiple-use.

1.2.3 Consistency with Non-BLM Authorities

The proposed action is further consistent with other Federal, State and local land use policies and plans to the maximum extent possible.

Nevada Statewide Policy Plan for Public Lands, 1986 (Nevada Division of State Lands 1986)

Agriculture (p. 9): Goals for Agriculture. Recognize that agricultural production in Nevada will be necessary to help meet the requirements of future state populations and is especially important to the economies of rural counties of the state. Develop policies and regulations that provide for the long-term productivity and availability of public land resources for agricultural purposes.

Elko County Public Lands Policy Plan, 2010 (Elko County 2010)

"7. Agriculture and Livestock Production (p. 71):

Agricultural production is necessary to help maintain the historical, cultural and economic viability of Elko County. Elko County requires that federal land management agencies use of the 2006 Elko County Grazing Economic Impact study, 2010 Federal Land Policy and its Impacts to the Economy of Elko County, or other updated studies, in all environmental analysis on livestock grazing related decisions.

- Directive 7-1:** Preserve agricultural land and promote the continuation of agricultural pursuits, both traditional and non traditional;
- Directive 7-2:** The pursuit and production of renewable agricultural resources are consistent with the long term heritage of Elko County. This private industry benefits the County economically and culturally;
- Directive 7-3:** Opportunities for agricultural development on public lands should continue at levels that are consistent with historical customs, culture and compatibility with other multiple uses;
- Directive 7-4:** Grazing should utilize sound adaptive management practices. Elko County encourages the federal land management agencies to include flexibility into their grazing management plans that allow for grazing management that is beneficial to the health of the land, the economic viability of the producer, and enhances all other multiple uses of our public lands. Elko County acknowledges that periodic updates of the Nevada Rangeland Monitoring Handbook may be required to help establish proper levels of grazing, but does not support loss of federally managed public lands used for grazing purposes;
- Directive 7-5:** Allotment management strategies should be developed that provide incentives to optimize stewardship by the permittee. Flexibility and acknowledgement of stewardship should be given to the permittee to allow the operator the ability to reach condition standards for the range. Monitoring should utilize the use of long-term trend

studies as described above. Elko County also supports the use of cooperative monitoring utilizing the Nevada Rangeland Monitoring Handbook Second Edition;

Directive 7-6: Encourage agencies managing public lands to coordinate with the N-1 Grazing Board and appropriate Conservation District on all manners affecting livestock grazing on public lands within the County;

Directive 7-7: Range water rights and improvements such as those associated with seeps, springs, streams, lakes and wells used by livestock should be protected in the long term for that use. Encourage cooperation between the federal land management agencies and the grazing operator in protecting the riparian values of these water sources. The county does not support the transfer of water rights from livestock to wild horses or wildlife. Nevada Revised Statute 533.367 requires water developments to not restrict use by wildlife;

Directive 7-8: The Nevada Congressional Delegation should be encouraged to develop regionally variable grazing fees that are based on the quality and quantity of forage, accessibility and infrastructure.

Directive 7-9: Elko County requests federal agency notification of all actions regarding permit renewals for potential request by Elko County for status as a cooperating agency in such action.

Directive 7-10: Elko County considers mandatory, set time period, post-wild land fire grazing closures a inconsistent with good range science. The County expects that burned pastures be allowed one year to recover, and then be evaluated for their condition relative to grazing. If, after one year of recovery, the forage is suitably restored to allow grazing, grazing should be restored, even if on a limited basis. Elko County strongly encourages the USFS and BLM to restore retired or discontinued grazing privileges on all Federally Managed Public Lands.

1.2.4 Relationship to Regulatory or Statutory Authorities

The following table identifies elements of the human environment that are regulated by a statutory or regulatory authority that would be affected and are analyzed in Chapter 3 of this EA, as well as those that BLM determined would not be affected.

Table 1: Review of Statutory Authorities

ELEMENT/RESOURCE OF HUMAN ENVIRONMENT REGULATED BY STATUTORY AUTHORITY	PRESENT?	AFFECTED?
Air Quality	Yes	No*
Area of Critical Environmental Concern	No	No
Cultural Resources	Yes	Yes
Environmental Justice	No	No
Farm Land -Prime/Unique	No	No
Designated 100-year Floodplains	No	No
Human Health & Safety	No	No
Native American Religious Concerns	Yes	Yes
Invasive Non-Native Species	Yes	Yes

ELEMENT/RESOURCE OF HUMAN ENVIRONMENT REGULATED BY STATUTORY AUTHORITY	PRESENT?	AFFECTED?
Vegetation	Yes	Yes
Livestock Grazing	Yes	Yes
Migratory Birds	Yes	Yes
Soil Resources	Yes	Yes
Special Status Species ¹	Yes	Yes
Threatened, Endangered Species including Candidates	Yes	Yes
Water Quality (Surface/Ground)	Yes	Yes (surface)
Wastes, Hazardous/Solid	No	No
Wetlands, Riparian Zones	Yes	Yes
Wild & Scenic Rivers	No	No
Wilderness Including Lands with Wilderness Characteristics	No	No
Visual Resource Management	Yes	No*
*Impacts from proposed actions and alternatives considered negligible on these resources through the interdisciplinary process.		

1.3 Background Information

The Cotant Seeding Allotment is located approximately 30 miles north of Elko, Nevada (Map 1). Gently rolling hills to moderately steep mountainous terrain with elevations varying from 5,500 feet to 6,500 feet characterize the topography of the allotment. The allotment consists of two pastures, the west 27 percent of the allotment is seeded with crested wheatgrass and the remainder is native range consisting of big sagebrush, low sagebrush, bunch grasses, annual grasses and various forbs. There are two pastures within the Cotant Seeding Allotment, the Cotant Seeding Pasture and the Cotant Seeding Native Pasture.

The Mexican Field Allotment is located approximately 38 miles north of Elko, Nevada (Map 1). The allotment is comprised of 3,019 acres of which 2,991 acres are public and the remaining 28 are private. The East Fork of Beaver Creek bisects the allotment. The area consists of gently rolling hills to moderately steep mountainous terrain with elevations varying from 5,500 feet to 6,500 feet. The allotment is one large pasture consisting of meadows and sagebrush-rabbitbrush types in the lowlands and mixed types of big sage, low sage and perennial grasses occurring in the foothills. During the 2006 Charleston Fire, the majority of the allotment was burned; however, there are remaining intact stands of native vegetation. Rehabilitation efforts were completed after the Charleston Fire.

The entire Mexican Field Allotment is identified in the 1987 RMP as being deer yearlong habitat. The RMP also identifies 14 miles of the East Fork of Beaver Creek as high priority stream habitat. Portions of the East Fork of Beaver Creek occur in the Mexican Field Allotment.

¹ The East Side Spring Enclosure (T41N, R57E, Sec. 27, SE) supports the Humboldt pyrg (*Pyrgulopsis humboldtensis*), a species of springsnail (Hershler 1998). Because many springsnail species in the western United States are found at only one to a few isolated springs, they are at risk of extinction and warrant special consideration. The population in the Mexican Field Allotment is not affected by the proposed action or alternatives and will not be considered further since the East Side Spring Enclosure would remain closed to livestock grazing under all alternatives.

One livestock permittee is authorized to graze livestock within the Cotant Seeding and Mexican Field Allotments. An allotment management plan (AMP) was completed for both allotments in 1988 (BLM 1988). In 1994, a Final Multiple Use Decision (FMUD) was issued replacing most provisions of the 1988 AMP (BLM 1994). The FMUD established resource management objectives and allows for a rotational grazing system alternating early and late use between the native and seeded pastures within both allotments.

The FMUD allows for early grazing three years out of four, with late or hot season use limited to no more than one year out of four in the Mexican Field Allotment. The rotational system outlined in the 1994 FMUD has been followed since it was implemented; adjustments were made to dates because of snow cover and access considerations. Although the FMUD outlines dates of April 15th to May 31st in years the allotment is grazed early, the early grazing treatment actually occurred between May and late June/early July because of snow cover and access considerations. In addition, the number of AUMs actually used for the Cotant Seeding and Mexican Field Allotments over the past ten years has been lower than what is permitted. Factors including grazing system dates, water limitations in portions of the Cotant Seeding Allotment and recent wildfires have contributed to the permittee using less AUMs than is permitted by the FMUD.

1.4 Scoping

The BLM conducted both internal and external scoping for this EA. External scoping began on September 28, 2011 when BLM issued the updated Draft Standards and Guidelines Assessments for the Cotant Seeding and Mexican Field Allotments. Copies of both documents were mailed to the interested parties list for the Cotant Seeding and Mexican Field Allotments as well as posted to the BLM website at:

http://www.blm.gov/nv/st/en/fo/elko_field_office/blm_programs/grazing.html.

Both documents are still available on the website. Alternatives were developed as a result of internal and external scoping. No additional data, comments and/or alternatives were received during the comments period that ended on October 31, 2011. The livestock permittee did meet with the BLM on November 21, 2011 to discuss grazing management in the future on the Cotant Seeding and Mexican Field Allotments. Concerns raised by the permittee during that meeting were incorporated into this EA.

2.0 Alternatives

2.1 Alternative 1 – No Action

Under this alternative, the grazing permit would be issued for a 10-year period to the holder of the preference for grazing privileges on the Cotant Seeding and Mexican Field Allotments under the current terms and conditions of the permit (listed below). Active permitted use would remain at 720 AUMs for the Cotant Seeding Allotment. Active permitted use would remain at 546 AUMs for the Mexican Field Allotment.

The grazing permit would appear as follows:

Table 2. Current Permitted Use for Cotant Seeding and Mexican Field Allotments

Allotment	Livestock Number	Livestock Kind	Permit Dates	AUMs
Cotant Seeding	178	Cattle	5/1-8/31	720
Mexican Field	111	Cattle	4/15-9/10	546

The following grazing schedule would remain in place on the allotments and would be a term and condition of the grazing permit:

Table 3. Cotant Seeding and Mexican Field Allotments Grazing System

Pasture	Target AUMs	Year #1	Year #2	Year #3	Year #4
Mexican Field*	546	4/15-5/31	4/15-5/31	4/15-5/31	7/27-9/10
Cotant Seeding	462	7/3-8/26	7/3-8/26	6/1-7/26	6/1-7/26
Cotant Native	258	6/1-7/2	6/1-7/2	7/27-8/26	5/1-5/31

* Mexican Field is a separate allotment that is used in conjunction with Cotant Seeding Allotment to complete a rotation grazing system.

East Fork Beaver Creek Enclosures Grazing System

In 1989, BLM fenced the majority of the East Fork of Beaver Creek occurring within the Cotant Seeding Allotment into two enclosures. Water gaps for livestock exist above, below and between the enclosures. Limited grazing of the enclosures by livestock was provided for in the 1988 Comex AMP and carried forward in the 1994 FMUD. Under provisions of the 1988 AMP, the enclosures could be grazed from 4/16-6/15 for two years followed by two years of rest beginning in 1994. A utilization limit of 50% on key species was also established. Other than periodic unauthorized use, prescriptive grazing of enclosures has only occurred in 2008.

2.1.1 Current Terms and Conditions of the Grazing Permit

- Upon approval of the authorized officer, livestock number/kind may vary from those listed depending on period of use provided that the total number of AUMs of specified livestock grazing is not exceeded.
- Livestock grazing outlined above will be in accordance with the Cotant Mexican Field Allotment Complex Allotment Management Plan (9/6/88) and the Districts Manager's Final Multiple Use Decision for the Cotant Seeding (5/15/94).
- The following stream enclosures are closed to grazing:
 1. West Mexican Field Spring #1, T41N, R57E, Sections 21 & 22
 2. Cotant Enclosure #1 and #2
- There are no historic suspended AUMs for the Mexican Field Allotment.
- There are 112 Suspended AUMs (voluntary non-use for conservation purposes) associated with the Cotant Allotment.

2.2 Alternative 2 – Proposed Action

Under this alternative, the BLM is proposing to renew grazing permit authorization number 2701590 for the Cotant Seeding and Mexican Field Allotments for a term of 10 years.

This Proposed Action would replace the September 1988 Allotment Management Plan and the May 1994 Final Multiple Use Decision for the Cotant Seeding Allotment and the May 1994 Final Multiple Use Decision for the Mexican Field Allotment.

The active permitted use would remain at 720 AUMs for cattle use in the Cotant Seeding Allotment. The active permitted use would remain at 546 AUMs for cattle use in the Mexican Field Allotment. The 112 AUMs for conservation non-use would be placed into suspended non-use.

The permittee would submit a grazing application and meet with the BLM annually for review of the grazing application prior to grazing use to ensure planned use is consistent with treatment dates, active permitted use for allotments and pastures. Annual season-long grazing (defined as grazing use occurring between May and September more than two consecutive years in a row) would not be authorized for either pasture in the Cotant Seeding Allotment.

BLM would collect utilization monitoring at least 1 out of 5 years. Should these objective levels be exceeded in the allotment, future grazing applications will be adjusted as warranted based on the degree of use, period of use, and duration of use relative to past use and future plans for grazing use, and the effects of the utilization on rangeland health and other multiple use objectives.

Resource conditions would continue to be monitored to determine if the livestock management practices as authorized by this permit renewal are conforming to the Standards and Guidelines for Rangeland Health and to other objectives established through applicable planning or policy documents. Any future adjustments in dates of livestock use and in numbers of livestock will be based on results of monitoring and on meeting resource objectives.

Table 4. Proposed Grazing System for Cotant Seeding and Mexican Field Allotments

Allotment	Livestock Number	Livestock Kind	Permit Dates	AUMs
Cotant Seeding	178	Cattle	5/1-8/31	720
Mexican Field	134	Cattle	5/10-9/10	546

2.2.1 Proposed Terms and Conditions of the Grazing Permit

- Grazing treatments on the Mexican Field Allotment would allow for no more than one year of hot season grazing occurring in a four year cycle unless incorporation of additional hot season use into the grazing system is supported by monitoring. Hot season is defined as approximately as July 1st through September 30th. These dates may vary with climatic conditions but provide a general guide.
- Upon approval of the authorized officer, livestock number/kind may vary from those listed depending on period of use provided that the total number of AUMs of specified livestock grazing is not exceeded.
- In the event of a wildfire or drought or a temporary closure of pastures/portions of pastures to livestock grazing is necessary, the BLM and the livestock grazing permittee during this interim closure period would plan grazing strategies that would achieve objectives and maintain and/or improve resource conditions.
- The permittee may be allowed 5 days of flexibility before and after the pasture use dates specified on the annual grazing application to accommodate livestock movements and removing livestock from pastures, provided that this extended use does not exceed authorized number of AUMs.

- The utilization objective on native key grass species would not exceed moderate (41-60%) use of current year's growth in any given year to be measured at the end of the scheduled use period or growing season whichever occurs later.

2.3 Alternative 3 – Reduced Grazing

Under this alternative livestock grazing would be authorized at the average actual use over the past 10 years. This alternative would result in a reduction in authorized AUMs for both the Cotant Seeding and Mexican Field Allotments. The permittee would coordinate at the beginning of each grazing season with the BLM to ensure that number of livestock and dates would be in conformance with the grazing permit. Sideboards for frequency of hot season use in either the Cotant Seeding Allotment or the Mexican Field Allotment are the same as for the No Action Alternative.

Table 5. Reduced Grazing System for Cotant Seeding and Mexican Field Allotments

Allotment	Livestock Number	Livestock Kind	Permit Dates	AUMs
Cotant Seeding	52	Cattle	5/1-8/31	210
Mexican Field	76	Cattle	5/1-9/10	332

2.4 Alternative 4 - No Grazing

This alternative would not authorize grazing within the Cotant Seeding or Mexican Field Allotment and would initiate a process in accordance with the 43 CFR 4100 regulations to eliminate grazing. All livestock would be removed from the allotment. Since no grazing would occur, there would be no livestock capacity determinations, no utilization or grazing intensity guidelines, no grazing management system, and no implementation or effectiveness monitoring.

Water catchments within the Cotant Seeding Allotment would not be maintained or reclaimed; however, the exclosures within both allotments would no longer be necessary. BLM would need to either remove the exclosures or maintain the existing exclosures that are within the allotments. There is approximately 25 miles of fence, either bordering or located on public land, serving as the allotments boundaries. To prevent unauthorized grazing use on public lands, BLM would assign maintenance responsibility for these fences to the permittees on adjoining or adjacent allotments.

This alternative does not preclude livestock grazing or livestock management on these allotments in the future if a decision is made through another comprehensive analysis to resume these actions.

2.5 Proposed Terms and Conditions Applicable to Alternatives 1-3

- Grazing use will be in accordance with the Final Permit Renewal Decision for the Cotant Seeding and Mexican Field Allotments dated _____ (To Be Determined).
- Planned use would be outlined in a grazing application that is submitted by the permittee to the BLM for final approval prior to turn out. The numbers of cattle may vary during the authorized periods of use. The permittee must inform the BLM of any changes to planned use prior to the change occurring.

- Actual use data on all pastures must be submitted to this office within 15 days from the last day of use. The grazing bill will be prepared after the grazing season based on actual use data.
- Should the utilization objective levels be exceeded in any pasture of the allotment, future grazing authorizations will be adjusted as warranted based on the degree of use, period of use, and duration of use relative to past use and future plans for grazing use, and the effects of the utilization on rangeland health and other multiple use objectives.
- Supplemental feeding is limited to salt, mineral and/or protein supplements in block, granular or liquid form. Such supplements must be placed at least ¼ mile from live waters (springs, streams), troughs, wet or dry meadows, and aspen stands.
- All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing by the BLM.
- Pursuant to 43 CFR 10.4 (G), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
- The Terms and Conditions of your permit may be modified if additional information indicates that revision is necessary to conform with 43 CFR 4180.

3.0 Affected Environment/Effects of Alternatives

This chapter characterizes the resources and uses that have the potential to be affected by the Proposed Action and alternatives, followed by an analysis of the direct, indirect, and cumulative impacts on those resources. Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.

The degree to which resources/uses may be affected by the proposed activities are discussed in the following sections. Each section includes discussion of the:

1. Affected Environment (current condition) of the resource or use
2. Effects (direct and indirect) of each alternative
3. Cumulative Impacts

3.1 Scope of Analysis

The geographic extent of resources and uses cumulatively affected by the proposed action varies by the type of resource and impact, as noted below. Refer to Maps 1-6.

Table 6. Cumulative Effects Study Area (CESA)

Section #	Element/Resource/Use	Study Area Name	Why Selected
3.3	Vegetation*	Cotant Seeding and Mexican Field Allotments	Livestock are confined to the allotments boundaries by fencing and that is where the impacts directly occur.
3.4	Livestock Grazing*	Cotant Seeding and Mexican Field Allotments	Livestock are confined to the allotments boundaries by fencing and that is where the impacts directly occur.
3.5	Invasive, Non-Native Plant Species*	Cotant Seeding and Mexican Field Allotments	Livestock are confined to the allotments boundaries by fencing and that is where the impacts directly occur.
3.6	Soils*	Cotant Seeding and Mexican Field Allotments	Livestock are confined to the allotments boundaries by fencing and that is where the impacts directly occur.
3.7	Riparian Areas and Wetlands	East Fork of Beaver Creek subbasin represented as a 12 th order hydrologic unit code (HUC)	Potential impacts to the East Fork of Beaver Creek and its tributaries would come primarily from the surrounding watershed.
3.8	Aquatic Wildlife	East Fork of Beaver Creek subbasin	Potential impacts to the East Fork of Beaver Creek and its tributaries would come primarily from the surrounding watershed.
3.9	Wildlife	Nevada Department of Wildlife Management Unit 073	Incorporates that movement and migrations patterns of wildlife species.
3.9	Special Status Species, Threatened, Endangered and Candidate Species, and Migratory Birds	North Fork Population Management Unit (PMU)	Incorporates habitat and seasonal needs and movement for species.
3.10	Cultural Resources*	Cotant Seeding and Mexican Field Allotments	Livestock are confined to the allotments boundaries by fencing and that is where the impacts directly occur.
3.11	Water Quality	East Fork of Beaver Creek subbasin	Potential impacts to the East Fork of Beaver Creek and its tributaries would come primarily from the surrounding watershed.
3.12	Fire Management	Marys River Fire Management Unit	The FMU includes the allotment boundaries.
3.13	Lands with Wilderness Characteristics (LWC)*	Wagon Springs LWC	Management unit that incorporates part of the allotments with LCW.
3.14	Native American Concerns*	Cotant Seeding and Mexican Field Allotments	Livestock are confined to the allotments boundaries by

			fencing and that is where the impacts directly occur.
3.15	Recreation*	Cotant Seeding and Mexican Field Allotments	Livestock are confined to the allotments boundaries by fencing and that is where the impacts directly occur.

*For these resources, direct and indirect study areas are the same CESA.

3.1.1 Summary of Past, Present and Reasonably Foreseeable Actions

Past and Present Actions (PPAs) within the Cotant Seeding and Mexican Field Allotments include issuance of livestock grazing management decisions for adjoining allotments, fire suppression and rehabilitation efforts, potential increase for invasive non-natives plants and animals including aquatic species, mining (including minerals exploration), recreation and livestock grazing.

Reasonably Foreseeable Future Actions (RFFAs) within the Cotant Seeding and Mexican Field Allotments include issuance of livestock grazing management decisions for adjoining allotments, fire suppression activities, fire rehabilitation efforts, continued mining exploration, potential increase for invasive non-natives plants and animals including aquatic species, climate change, recreation, issuance of Land Use Plan Amendment for management of the Greater Sage-Grouse (sage-grouse), Elko Resource Management Plan Revision, sagebrush and bitterbrush plantings, and livestock grazing and permit renewals.

3.2 Effects Common to All Alternatives

This subsection discusses the impacts of climate change, wildfire, and threats of disease in general. Specific effects/impacts are described within the analysis for each affected element.

Events that can impact rangeland health, such as wildfire and climate change, can be difficult to predict and may appear speculative. However, BLM acknowledges direction in Secretarial Order 3226 to consider activities that could have long-term impacts.

For this EA, “long-term” projects are defined as those where impacts (positive² or negative³) are expected to last ten years or more. One decade has been selected for reasons that include, but are not limited to:

- Observations made by BLM resource specialists with regards to their professional experience and understanding of cause and effect relationships for their respective resources in the BLM Elko District.
- Native vegetation can, depending upon the species, take more than ten years to become firmly established in arid environments where water is a growth limiting factor.
- Soils exposed to both fire severity (duration) and intensity (temperature) (not uncommon where drought resistant vegetation exists) can remove viable seed sources, as well as result in the mortality of biological activity in the upper 3 inches of a soil

² Positive impacts: Impacts expected to improve rangeland conditions beyond the existing status.

³ Negative impacts: Impacts expected to reduce rangeland conditions to or below the minimum objectives as stated in the Elko RMP (BLM 1987a) and Rangeland Program Summary (RPS) (BLM 1987b).

horizon, resulting in delayed decomposition and nutrient cycling necessary for plant growth.

- Grazing permits are typically issued for a ten year period.
- BLM guiding documents (Resource Management Plans, Standards and Guidelines for Rangeland Health, etc.) are normally reviewed and revised every five to fifteen years.

Climate Change

Predictions⁴ associated with climate change, identified during a 2011 literature review for impacts that could occur within the BLM-Elko District include:

-  Temperature increase predicted of 1 to 2 degrees F (Karl et al. 2009) between now and 2020, leading to:
 - earlier snow melt and onset of spring (Stewart et al. 2005; Mote 2005; ; Bernstein 2007; Feng 2007; Barnett 2008),
 - longer growing season for forage production (Bernstein 2007), but potentially lower quality forage (Karl et al. 2009),
 - an increase in evapotranspiration (Hamlet 2006),
 - threat of an increase for diseases, insects, and non-native and noxious species (Chambers et al. 2009),
 - reduction in soil moisture for plants (Izaurrealde et al. 2011),
 - increase in drought frequency and severity (Bernstein 2007),
 - likely increase to stream temperature in non-shaded riparian areas, and
 - an increase in wildfires⁵ resulting from a combination of the above factors (Ehrenfeld 2003, Norton 2003).
-  Precipitation could vary from **no change** to as much as **15% less** than present (Timmerman et al. 1999; Meehl 2006; Karl et al. 2009) suggesting the:
 - potential for species shifting geographically to adapt to changing conditions (Crozier 2003, 2004; Inouye et al. 2000),
 - mortality of species unable to adapt to changing conditions (Beever et al. 2003; Galbreath et al. 2009),
 - increase of storm intensity (Bernstein 2007),

⁴ Predictions: In addition to compliance with Secretarial Order No. 3226 to consider impacts of climate change, CEQ advises agencies to recognize the scientific limits of their ability to accurately predict climate change effects, especially of a short-term nature, and not devote effort to analyzing wholly speculative effects. BLM (2008) further states that disseminated information based on non-agency reports/studies (i.e. third party scientific reports in credible publications) should be up-to-date, have integrity (based on accurate science and technology), useful to management for planning, and objective (BLM 2008, OMB 2002, DOI 2002).

⁵ Within the Elko District, fire specialists' field observations over the last decade suggest that wildfires of higher intensity and severity in sagebrush dominated landscapes are closely related to the amount of cheatgrass production that has occurred in an area. Wet springs and winters typically yield more than the 400-500 pounds of cheatgrass on the District (the average for annual production during years with average precipitation), (i.e., 2005 cheatgrass production was estimated at 2000 pounds). Based on this observation and the prediction that precipitation could be reduced in the future, it is possible that there would not be a substantive increase in wildfires.

- higher potential for floods and subsequent erosion on soils with high clay content (CCSP 2008; Furniss 2010), and
- higher demand for water in urban, rural, and agricultural areas, as well as from increasing demands for diverted flow to areas like Las Vegas, Nevada (Deacon et al. 2007).

Two of the predicted events expected to occur as a result of climate change, an increase of wildfire and shifts or increases for insects/disease, are events that can directly affect (or have the potential to effect) resources within the Cotant Seeding and Mexican Field Allotments.

Anthropogenic Induced Fire(s) and Wildfire(s)

Fire impacts affect resource conditions and wildlife. Repopulation of native species can require as many as (or more than) ten years in areas where restoration is left to natural recovery and water is a limiting factor. Large portions of sagebrush and pinyon pine/juniper woodlands within the area are presently dominated by perennial and annual grasses, including some invasive species (i.e. Canadian thistle and cheatgrass) that are among the first plants established following fire. These habitats, within the Great Basin, are considered crucial for many species, including the sage-grouse.

Protection Measures: Fire is possible under all alternatives from a variety of ignition sources, including humans (manual or mechanical) or climatic events (i.e. lightning). Proactive measures by BLM-Elko to minimize impacts by fire include: annual enlistment of fire staff and equipment needed to suppress fire(s). The BLM fire staff monitors daily weather conditions and coordinate with other agencies to suppress fires that occur within the District or surrounding areas. Seasonally, BLM also enlists the support of Engine⁶ and Type II Hand⁷ Crews, as well as Hotshot⁸ and Helitack⁹ Crews when necessary.

⁶ Hand Crews normally consist of 18-20 crewmembers. Hand Crews can be used for a variety of operations on a wildland fires. Hand Crews are assigned duties on wildland and prescribed fire primarily that consist of constructing fire lines with hand tools and chainsaws, burning out areas using drip torches and other firing devices, and mop-up and rehabilitation of burned areas. Hand crews may or may not have assigned permanent supervision.

⁷ Hand Crews normally consist of 18-20 crewmembers. Hand Crews can be used for a variety of operations on a wildland fires. Hand Crews are assigned duties on wildland and prescribed fire primarily that consist of constructing fire lines with hand tools and chainsaws, burning out areas using drip torches and other firing devices, and mop-up and rehabilitation of burned areas. Hand crews may or may not have assigned permanent supervision.

⁸ Hotshot Crews are a 20 person organized crew of which is used primarily for wildfire suppression, fuels reduction, and other fire management duties. They perform the same duties as Hand Crews, however are very specialized and are generally placed in the most rugged terrain on the most active and difficult areas on wildfires. Hotshot crews are utilized throughout the country and may spend extended periods away from their home units. The crews place a great deal of emphasis on physical fitness.

⁹ Helitack crews are wildland fires suppression crews specializing in helicopter operations. Helitack Firefighters are delivered to fires via helicopter and suppress wildfires with hand tools and chainsaws. Helicopters can be equipped with a bucket or fixed tank to drop water or retardant during firefighting operations. They deliver helitack crews for initial attack, and transport personnel and cargo in support of fires.

BLM also assigns roles/responsibilities to qualified emergency assessment team members (advisors with specific training/knowledge in resources impacted by fire such as soils, range, wildlife, and botanists). Once a fire is considered both contained and controlled by a Fire Incident Commander, the advisors are among the first to examine and determine fire severity to provide reclamation recommendations.

3.3 Vegetation

3.3.1 Affected Environment

The vegetation community within the native pasture of the Cotant Seeding Allotment is dominated by Thurber's needlegrass (*Stipa thurberiana*), bluebunch wheatgrass (*Agropyron cristatum*), and Wyoming big sagebrush (*Artemisia tridentata wyomingensis*). Other species found within the allotment include Sandberg's bluegrass (*Poa secunda*), bottlebrush squirreltail (*Sitanion hystrix*), and Douglas rabbitbrush (*Chrysothamnus viscidiflorus*). Additional grass and shrub species may also be present in limited numbers. The seeding pasture is dominated by crested wheatgrass with Wyoming big sagebrush over story.

The vegetation community within the Mexican Field Allotment is dominated by bluebunch wheatgrass (*Agropyron spicatum*), Thurber's needlegrass (*Stipa thurberiana*) and big sagebrush (*Artemisia tridentata*). Other species found within the allotment include Nevada bluegrass (*Poa nevadensis*), antelope bitterbrush (*Purshia tridentata*), and Douglas rabbitbrush (*Chrysothamnus viscidiflorus*). Additional grass species are present in limited numbers throughout the allotment.

3.3.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action

The No Action Alternative would result in a new 10-year grazing permit issued with the same grazing terms and conditions as are currently in effect. Livestock grazing would continue at current seasons of use as described on the grazing permit. It would be expected that utilization of key grazing species would continue to range within slight, light and moderate use levels as documented in the 2011 Cotant Seeding Allotment Draft Standards and Guidelines Assessment and the 2011 Mexican Field Allotment Draft Standards and Guideline Assessment. Grazing during the growing season would continue in three out of four years within the Mexican Field Allotment. In many years due to the snow accumulations and the elevation the Mexican Field Allotment is not accessible until early May.

Alternative 2 – Proposed Action

The Proposed Action would modify the on date to for Mexican Field to begin May 10. This alternative is more suitable to the spring conditions and being able to access the allotments in the spring. Grazing during the growing season would continue under this alternative, but utilization of key forage species would be expected to continue to fall within slight, light, and moderate use levels as documented in the 2011 Cotant Seeding Allotment Standards and Guidelines Assessment and the 2011 Mexican Field Allotment Standards and Guideline Assessment. The Proposed Action Alternative establishes a maximum utilization level to not exceed moderate use and BLM would collect that data at least one out of five years to further insure that vegetation within both allotments continues to provide for all users. Additionally, this alternative provides for grazing to be adjusted during drought years or in the event of

wildfire so that grazing strategies would maintain or improve resource conditions therefore benefiting vegetation within both allotments.

Alternative 3 - Reduced Grazing Alternative

Under this alternative it would be expected that utilization of key grazing species would fall within slight and light use levels. It could lead to an increase in fuels and lead to “wolfy” plants with reduced carbohydrate and nutrient reserves.

Alternative 4 - No Grazing

Under this alternative grazing use on the allotment would be eliminated. Eliminating grazing would likely lead to increases in fuels within the Cotant Seeding and Mexican Field Allotments. Increases in fuels may lead to larger, hotter burning wildfires that may have adverse impacts on the vegetation in the allotment by allowing non-native plants to become established. The elimination of grazing may also lead to “wolfy” plants with reduced carbohydrate and nutrient reserves.

3.3.3 Cumulative Impacts

Vegetation present on the allotments has been affected by many actions including poor grazing management prior to the early 1900’s. Other actions that have impacted vegetation resources include the various disturbances associated with roads. While not an action planned or undertaken by the BLM, wildfires are an occurrence that can have an impact on the vegetation communities. During the last 30 years there has been only one wildfire of any size within the Mexican Field Allotment, the 2006 Charleston Fire. However, the potential exists for additional large fires to burn in the Cotant Seeding and Mexican Field Allotments, especially sagebrush continue to expand and increase in density. The Bureau and cooperating agencies have and would be expected to continue to aggressively suppress wildfire on the lands in and around the allotments and conduct subsequent post-fire rehabilitation actions to appropriately stabilize the vegetative communities and to restore plant communities, such as reseeding sagebrush, as appropriate. Based on a combination of active suppression and stabilization and restoration, the long-term impacts from wildfire on the Cotant Seeding and Mexican Field Allotments have been minor. There are no cumulative impacts of concern relating to vegetative resources on the two allotments.

3.4 Livestock Grazing

3.4.1 Affected Environment

Livestock Grazing – Grazing of domestic cattle, sheep and horses has occurred on public and private lands in the area since, at least, the 1860’s. The allocation of forage for livestock use on public lands in the area initially occurred in the 1940s and again in the 1960s. Grazing is presently dispersed and seasonal on BLM and U.S. Forest Service-administered public lands grazing allotments. It is anticipated that levels of livestock grazing would remain consistent at or near present levels on public lands within the study area. Numbers of livestock on private lands could increase or decrease at the landowner’s discretion. Decisions to temporarily close pastures and allotments to livestock grazing have occurred in areas burned by wildfires.

Agriculture – Agriculture activities, primarily the cultivation of hay crops for livestock, occur on private lands on or near water courses. It is anticipated that agriculture activities would remain at present levels.

The Cotant Seeding Allotment contains approximately 3,200 acres of Public Land, and has two pastures. The total permitted use for the Cotant Seeding Allotment is 720 AUMs of Active use. The Mexican Field Allotment contains approximately 2,900 acres of Public Land, and has one pasture. The total permitted use for the Mexican Field Allotment is 546 AUMs of Active use. Both allotments are grazed by the same permittee (Permit Authorization No. 2701590). The authorized season of use on the allotments are shown in Table 2.

Livestock grazing is an important economic activity in Elko County. A 2003 study identified 142 economic sectors within the Elko County economy. Cattle ranching recorded \$53.8 million in output value, which ranked this industry 8th out of the 142 sectors; the sector employed 482 people, representing 2.53% of the total workforce, which ranked this sector 9th out of the 142 sectors; the industry realized \$43.5 million in export sales, representing 5.77% of Elko County's total exports, which ranked this sector 4th out of the 142 sectors.

Total economic impact of the industry to Elko County amounted to \$96.6 million dollars, with a total direct and indirect payroll of 905 jobs representing \$14.4 million in income *Alevy et al. 2007, Fadali and Alevy 2009, Fadali and Harris 2006, Harris and Fadali 2007*.

Elko County has a land base of just less than eleven million acres, of which 71.5% is in Federal ownership. Private farm and rangelands occupy another 26% of the county's land base, with the remaining 2.5% of the land base occupied by other uses. Hay is the principle crop raised on the private farmlands. The 1997 Census of Agriculture counted 402 farms and ranches in the county, with an aggregate cow herd ranking Elko County fourth in the nation in terms of animal numbers. Approximately 68% of all Elko County beef cow operations held federal grazing permits. The average Elko county ranch derives 49% of its annual forage requirements from public lands. Each Animal Unit Month utilized on public lands in Elko County is estimated to have a total production value of \$38 and a total economic impact of \$68. In 2006 an estimated 152,000 cows grazed within the county.

As stated above, the only permittee for the Cotant Seeding Allotment is permitted for 720 Active Preference AUM's, which represents a total annual impact of \$48,960 to the Elko County Economy. Additionally, the same permittee is permitted for 546 Active Preference AUM's on the Mexican Field Allotment, which represents a total annual impact of \$37,128 to the Elko County Economy.

3.4.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action

Under this alternative, Active Permitted Use for the Cotant Seeding Allotment would remain at 720 AUM's and Mexican Field Allotment would remain at 546 AUM's which would represent neither an increase nor decrease in an annual economic impact to Elko County. A 10-year grazing permit under the existing terms and conditions would be issued.

Alternative 2 – Proposed Action

The grazing permit would be issued for a 10-year term and the Active Permitted Use would remain at 720 AUMs for the Cotant Seeding Allotment and 546 AUMs for the Mexican Field

Allotment. The Proposed Action would not increase or decrease the annual economic impact to Elko County. Livestock management would essentially be the same as the No Action alternative.

Alternative 3 - Reduced Grazing

The grazing permit would be issued for a 10-year term and the Active Permitted Use would be 210 AUMs for the Cotant Seeding Allotment and 332 AUMs for the Mexican Field Allotment; a reduction in Active Permitted Use of more than half the AUMs of the existing grazing permit. Reducing grazing would likely cause economic uncertainty to the grazing preference holder and would probably result in loss of revenue to the preference holder as well as the Elko County economy. It is estimated that the potential economic loss could be as much as \$49,232 on a yearly basis.

Alternative 4 - No Grazing

Under this alternative all grazing would be eliminated within the allotment. The current grazing permit would be cancelled and BLM would reassign all maintenance responsibilities for the allotments boundaries fences to permittees in adjoining allotments. Eliminating grazing would likely cause economic uncertainty to the grazing preference holder and would probably result in loss of revenue to the preference holder as well as the Elko County economy. It is estimated that the potential economic loss could be as much as \$86,088 on a yearly basis.

3.4.3 Cumulative Impacts

The direct and indirect impacts of Alternatives 1 and 2 are expected to be beneficial to livestock grazing. Livestock grazing would continue under any of the alternatives except the No Grazing Alternative. Alternatives 1 and 2 would continue using the current AUMs and would continue the positive economic impacts to the agricultural sector of the Elko County economy. There are no cumulative impacts of concern relating to livestock grazing on the two allotments for Alternatives 1 and 2. Alternative 3 would authorize grazing at a reduced number of AUMs compared to the active grazing preference currently. This action would likely have negative impacts on the grazing preference holder and to the Elko County economy. The No Grazing Alternative would remove all livestock grazing from the Cotant Seeding and Mexican Field Allotments. This alternative would likely have a negative impact on the grazing preference holder and the Elko County economy.

3.5 Invasive, Non-Native Plant Species

3.5.1 Affected Environment

The BLM defines an invasive weed as, “a non-native plant that disrupts or has the potential to disrupt or alter the natural ecosystem function, composition and diversity of the site it occupies. Its presence deteriorates the health of the site, it makes efficient use of natural resources difficult and it may interfere with management objectives for that site. It is an invasive species that requires a concerted effort (manpower and resources) to remove from its current location, if it can be removed at all” (BLM National List of Invasive Weed Species of Concern). Invasive and non-native plant species may spread from infested areas by people, equipment, livestock, wildlife, and winds. They often exhibit aggressive growth and have the potential to seriously degrade the economic and ecological values of natural resources. Under Executive Order 13112, it is the policy of the land management agencies to prevent introduction of noxious weeds and invasive non-native species and to control their impact (EO 13112, 1999). Nevada Revised

Statute 555.005 defines noxious weeds as plants which are likely to be “detrimental or destructive and difficult to control or eradicate.”

Category A Weeds

These weeds are not found or are limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; and control is required by the state in all infestations (NDOA 2005).

There are no known Category A Weeds within the Cotant Seeding Allotment or the Mexican Field Allotment.

Category B Weeds

These weeds are established in scattered populations in some counties of the state; actively excluded where possible; actively eradicated from nursery stock dealer premises; and control is required by the state in areas where populations are not well established or previously unknown to occur (NDOA 2005).

There are no known Category B Weeds within the Cotant Seeding Allotment or the Mexican Field Allotment.

Category C Weeds

These weeds are currently established and widespread in many counties of the state with abatement at the discretion of the state quarantine officer (NDOA 2005).

Within this Mexican Field Allotment, the BLM is aware of five category C noxious weed infestations: three whitetop (*Cardaria draba*) sites and two Canada thistle (*Cirsium arvense*) sites.

3.5.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action

Under this alternative grazing would continue to occur at current dates and levels. Although some weeds are present within these allotments they are expected to remain at their currently minimal levels. Although any disturbance (including grazing) can increase the level of noxious weed infestation, the current grazing system is in line with the productivity/resistance of the present plant communities.

Alternative 2 – Proposed Action

Under this alternative grazing would continue to occur at current dates and levels. Although some weeds are present within these allotments they are expected to remain at their currently minimal levels. Although any disturbance (including grazing) can increase the level of noxious weed infestation, the current grazing system is in line with the productivity/resistance of the present plant communities. There are two advantages to the proposed alternative:

1. By having a later turn out it will allow the desirable perennial plants additional time to grow and become resistant to noxious weed invasion before grazing occurs.
2. Fire poses the highest risk of disturbance and a subsequent invasion of noxious weeds with these allotments. But by allowing the BLM to modify these grazing regimes while

the plant community is undergoing extreme stress has the potential to dramatically reduce noxious weed invasions.

Alternative 3 - Reduced Grazing

Under this alternative grazing would occur at a reduced level within both the Cotant Seeding and Mexican Field Allotments. By having reduced grazing the potential for disturbance is also reduced and therefore reducing the potential for spread of invasive, non-native plant species.

Alternative 4 - No Grazing

Under this alternative grazing would not occur within the Cotant Seeding or Mexican Field Allotment. There would be a reduced chance for disturbance within either allotment therefore reducing the chance for spread of invasive, non-native plant species.

3.5.3 Cumulative Impacts

Any ground disturbing activity occurring within these allotments have the potential to impact noxious weed introduction and expansion. When this grazing renewal is considered in addition to these other activities an increase in noxious weed infestations is not expected and the risk is actually reduced slightly by the proposed alternative.

3.6 Soils

3.6.1 Affected Environment

The Cotant Seeding Allotment is characterized by steep hills with rocky outcrops with gradual neat level basins or small, low rolling hills in between the steeper hills. Steep hillslope areas are typified by the Akler-Quarz-Soughe Association (24%). Depth to bedrock ranges from near zero to 40 inches. Surface textures range from gravelly loams to extremely cobbly loams. Available water holding capacity is limited and the soils are rated poor for rangeland seedings because of steep, thin and/or rocky soils.

Soils situated on low lying basins or rolling hills located between the steeper hills are typified by the Enko-Hunnton Association (16%). These soils are generally deeper than 60 inches. An indurated duripan, which restricts root growth, commonly occurs at a depth of 20 to 40 inches. Available water holding capacity ranges from 3.4 to 8.6 inches. Suitability for rangeland seedings is rated fair.

The Mexican Field Allotment is characterized by steep to gently rolling hills. Soils are dominated by the Bregar-Mclvey-Cotant Association (Elko County Central Survey). Depth to bedrock ranges from an average of 5 inches near hilltops to over 60 inches on lower hillslopes. The bedrock is composed primarily of rhyolite. Soil surface horizons are very gravelly to very cobbly loam. Subsoils are composed of clay to very gravelly clay loams. Available water holding capacity averages a low of 0.5 inches near hilltops to 7.3 inches on lower and concave hillslopes. Soils are generally rated as poor for rangeland seedings either because of too many large stones and/or droughty or limited soil depth.

The soils are moderately deep to deep and well drained. Surface soils are moderately fine to medium textured and normally more than 10 inches thick to subsoil or underlying material. The available water capacity is low to moderate and some soils are modified with high volumes of

rock fragments through the soil profile. Runoff is slow to moderate and the potential for sheet and rill erosion varies with slope gradient.

3.6.2 Direct and Indirect Effects of Alternatives

Grazing and related activities can potentially impact soil resources by altering physical soil properties, and through removal of vegetation. Direct impacts include compaction, hoof shear, and other physical impacts which cause soils to lose cohesiveness increasing the likelihood of erosion by wind and water. Similar impacts occur indirectly as a result of vegetation removal. A decrease in vegetative cover can increase exposure of soils to erosion from rainfall impact. A decrease in vegetative vigor due to grazing stress and increased susceptibility to weed establishment can increase the hazard of erosion.

Alternative 1 – No Action

Under this alternative soil conditions would likely remain the same as described above.

Alternative 2 – Proposed Action

Changes to grazing management and additional critical growing period deferment within the allotment could result in some improvement of soil quality. Improvements could come indirectly as a result of increased vegetative cover, frequency, and vigor. Direct physical impacts to soils would be expected to be the same as the No Action Alternative.

Alternative 3 - Reduced Grazing

Under this alternative livestock grazing would be authorized at the average actual use over the past 10 years. This alternative would result in a reduction in authorized AUMs for both the Cotant Seeding and Mexican Field Allotments. As such in this alternative soil conditions would likely remain the same as described above.

Alternative 4 - No Grazing

Under this alternative soil impact would be decreased as a result of no hoof compaction, shearing and physical disturbance. Vegetation loss as a result of grazing would not be an issue as well; which would lead to increased vegetation which will introduce more organic matter back into the soil. With the increase of vegetation, increased fire activity can be expected. With more vegetation it has the potential for resulting in hotter and more intense fires that can result in hydrophobic soils which will lead to decreased vegetation and erosion issues.

Stocking rates are the key in sustaining a healthy soil structure. This will maintain a healthy plant community which will help the soil structure while decreasing the possible problems fire can cause.

3.6.3 Cumulative Impacts

All alternatives would reduce the amount of AUMs taken for the Cotant Seeding and the Mexican Field Allotments. As a result the cumulative impacts will be decreased resulting in a continued sustainable and improved soil environment.

3.7 Riparian Areas and Wetlands

3.7.1 Affected Environment

Mexican Field Allotment

Direct and Indirect Study Areas: The direct study area for the proposed action and alternatives includes seeps and springs and those portions of the East Fork of Beaver Creek and Cabin Creek located on public lands within the Mexican Field Allotment. The indirect effects study area includes adjacent allotment uplands.

The Mexican Field Allotment supports riparian and wetland habitats on public lands including about two miles of the East Fork of Beaver Creek, about one mile of Cabin Creek and several seeps and spring/spring complexes. In the early 1980's, BLM constructed small enclosures on three of the identified springs on public lands. At least one spring located on public lands remains unfenced. Dominant riparian plants along streams include several species of willows (*Salix* species), Nebraska sedge (*Carex nebrascensis*), Baltic rush (*Juncus balticus*) and spikerush (*Eleocharis* species). Seeps and springs are largely dominated by Nebraska sedge in moist areas and Baltic rush on drier perimeters.

Data on stream and riparian habitat conditions in the Mexican Field Allotment show a pattern of improving conditions on the East of Beaver Creek in response to implementation of the 1994 FMUD (BLM 2011a). Habitat conditions were poor in 1988 but improved to ratings of good to excellent by 2008. In 2011, the East Fork of Beaver Creek was rated as either being in proper functioning condition or functional-at-risk with an upward trend, while Cabin Creek was rated as functioning at risk with an upward trend. All four lentic (standing water) riparian habitats in the allotment, including one unfenced spring, were rated as being in proper functioning condition in 2002 (fenced springs) and 2011 (unfenced spring).

Although grazing dates were extended into early to mid-July during years the Mexican Field Allotment was grazed "early" under the 1994 FMUD, utilization data collected for the East Fork of Beaver Creek and Cabin Creek between 1997 and 2011 showed use of riparian herbaceous and woody species ranged from slight (less than 20% of current year's growth) to moderate (41 to 60% of current year's growth) (BLM 2011a). Heavy use (use in excess of 60% of the current year's growth) was not recorded in any year's grazing was extended beyond the FMUD off date of 5/31. However, it is important to note that average actual use was only approximately 30 to 60% of permitted use for the Cotant Seeding and Mexican Field Allotments, respectively, during this time period.

Cotant Seeding Allotment

Direct and Indirect Study Areas: The direct effects study area for the proposed action and alternatives includes the portion of the East Fork of Beaver Creek within the Cotant Seeding Allotment (all of this stream reach is public). The indirect effects study area is the adjoining allotment uplands.

Approximately 80% of the East Fork of Beaver Creek within the Cotant Seeding Allotment is included in two enclosures. Small water gaps (places where cattle can access water) exist below, above and between the two enclosures. Dominant plant species along this reach of stream are similar to those described for the East Fork of Beaver Creek within the Mexican Field Allotment.

Data for the East Fork of Beaver Creek within the Cotant Seeding Allotment show excellent improvement in stream and riparian habitat conditions since the construction of exclosures in 1989 (BLM 2011b). The only time a prescriptive grazing treatment was applied to the exclosures (2008), utilization was found to be very light and well below the 1988 AMP limit of 50% (BLM 2011b).

3.7.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action Mexican Field Allotment

Short and long-term direct impacts would be positive and would be the same or very similar to the proposed action with the exception that portions of the East Fork of Beaver Creek and Cabin Creek determined to be functioning-at-risk in 2011 might achieve proper functioning condition status over a shorter time period. Earlier removal of livestock (by 5/31) in three years out of four is likely to further stimulate establishment of a dense willow/riparian corridor along portions of these streams. Livestock use of riparian areas and especially willows is generally insignificant until later in the growing season when uplands become desiccated. Under the no action alternative, the East Fork of Beaver Creek and Cabin Creek would receive very little use by livestock three years out of four resulting in accelerated establishment of riparian species in the more open areas along the stream. There would be no changes to fenced springs while the unfenced spring in the Mexican Field Allotment would continue to function properly.

Although AUMs could increase from average actual use to permitted use under the No Action Alternative, the increase would not appreciably affect riparian areas since livestock are generally distributed on uplands and away from riparian areas in April and May.

Short and long-term indirect impacts would be positive. Uplands would continue to meet rangeland health standards under the No Action Alternative. Livestock would be removed from the allotment in three of four years prior to the cessation of critical growing periods for key upland forage species. Healthy uplands help maintain proper functioning of riparian areas through increased infiltration resulting in reduced runoff and erosion rates.

Cotant Seeding Allotment

Short and long-term direct and indirect impacts would be positive. Stream survey data and functioning condition assessments demonstrate that excellent stream and riparian habitat conditions have developed on the East Fork of Beaver Creek in response to construction of exclosures and to periodic limited early season grazing in exclosures (BLM 2011b). In addition, uplands would continue to meet rangeland health standards under the rotational grazing system in place under the 1994 FMUD.

Although AUMs could increase over average actual use under the No Action Alternative, increased grazing on uplands could indirectly impact riparian areas as a result of decreased plant vigor and increased bareground, the rotational grazing system developed through the 1994 FMUD provides for rest during critical growing periods in two of four years. Utilization limits for key species would also prevent overuse of upland plants.

**Alternative 2 – Proposed Action
Mexican Field Allotment**

Short and long-term direct and indirect impacts would be mostly positive. The rotational grazing system which has resulted in attainment of rangeland health standards for both uplands and riparian areas (BLM 2011a) would continue to be implemented.

An increase from average actual use to permitted use under the proposed action could slow recovery for stream and riparian habitat conditions along the East Fork of Beaver Creek and Cabin Creek. Although season of use is generally more important than numbers of livestock in terms of riparian recovery (Wyman et al. 2006), the extension of off dates into July may make the stream more vulnerable to higher numbers of livestock. Livestock tend to concentrate in riparian areas as the summer progresses and uplands become desiccated. In addition, there is less time in the season for regrowth of grazed plants as the summer progresses. Provisions for monitoring followed by adjustments in dates or numbers of livestock under the Proposed Action would help ensure rangeland health standards and/or habitat objectives for the East Fork of Beaver Creek and Cabin Creek would continue to be met.

There would be no changes to habitat conditions for lentic riparian areas currently included within enclosures in the Mexican Field Allotment as a result of the proposed action. An increase from average actual use to permitted use could adversely impact the remaining unfenced lentic area. Proposed monitoring and subsequent adjustments in grazing management would help ensure protection of this spring system.

Cotant Allotment

Short and long-term direct and indirect impacts would be positive and would be the same as for the No Action Alternative.

**Alternative 3 - Reduced Grazing Alternative
Mexican Field and Cotant Seeding Allotments**

Short and long-term direct and indirect impacts would be positive. A rotational grazing strategy which has resulted in attainment of rangeland health standards for both uplands and riparian areas on both the Mexican Field and Cotant Seeding Allotments (BLM 2011a and b) would continue to be implemented. Numbers of permitted AUMs would be the same as average actual use which has been shown to be effective at meeting standards for both allotments (BLM 2011a and b).

**Alternative 4 - No Grazing
Mexican Field Allotment**

Short-term direct and indirect impacts would be positive and similar to other alternatives. Riparian and upland vegetation would increase rapidly in the absence of livestock grazing. Long-term direct and indirect impacts are less clear since some level of grazing may increase plant productivity on both uplands and in riparian areas and reduce fuel loads for wildfire. In some cases, wildfire can cause significant loss of riparian vegetation.

Cotant Allotment

Short-term direct and indirect impacts would be negligible since the majority of riparian habitat in the allotment is already included in enclosures with only limited grazing permitted.

Long-term direct and indirect impacts would be the same as for the Mexican Field Allotment.

3.7.3 Cumulative Impacts

Mexican Field and Cotant Allotments

All four alternatives would add positive cumulative effects to overall efforts to improve stream and riparian habitat conditions in the East Fork of Beaver Creek subbasin. Rotational grazing strategies have been applied to neighboring allotments including Stag Mountain and Beaver Creek. Monitoring conducted by BLM between 2008 and 2011 shows riparian habitat conditions have improved throughout the East Fork drainage since baseline stream surveys were established in the late 1970's and early to mid-1980's.

Improvements in stream and riparian habitat conditions throughout the East Fork of Beaver Creek subbasin would also help moderate predicted effects of climate change including increased frequency of both floods and droughts.

3.8 Aquatic Wildlife

3.8.1 Affected Environment

Mexican Field and Cotant Seeding Allotments

Direct and Indirect Study Areas: Direct and indirect study areas are the same as for the cumulative effects study area (refer to Table 6 and Map 2).

Native fish occur in both the East Fork of Beaver Creek and in Cabin Creek. These streams also support a number of aquatic invertebrate species as well as the non-native crayfish. The East Fork of Beaver Creek is identified as a potential recovery stream for Lahontan cutthroat trout (LCT), a federally listed threatened species, in the LCT Recovery Plan (U.S. Fish and Wildlife Service 1995). Although conversation records suggest LCT may have been present in the East Fork of Beaver Creek in the early 1970's (BLM file data), only nongame fish species including suckers (*Catostomas* species), redbelt shiners (*Richardsonius egregious*) and Lahontan speckled dace (*Rhinichthys osculus*) are currently found in either the East Fork of Beaver Creek or in Cabin Creek.

3.8.2 Direct and Indirect Effects of Alternatives

All Alternatives

Mexican Field and Cotant Seeding Allotments

Short and long-term direct and indirect impacts are positive or mostly positive for all alternatives and are similar to those described for Riparian Areas and Wetlands. Generally, actions which benefit riparian areas benefit native fish and aquatic invertebrates. Well vegetated streambanks provide both thermal and hiding cover for fish as well a source of nutrients and food for all forms of aquatic life. Healthy riparian corridors dissipate flood energies and filter sediments, resulting in reduced sediment loads and better spawning substrates. Riparian communities also provide diverse ponding structures creating pool habitat for fish and other aquatic wildlife. High quality pools are important for rearing and can also serve as refugium during periods of low flows in both summer and winter. Improvements in aquatic habitat conditions are especially applicable to any efforts to re-establish LCT since trout

are less tolerant of high sediment loads and warm stream temperatures than nongame fish species including suckers, shiners and dace.

3.8.3 Cumulative Impacts

Cumulative impacts for all four alternatives are positive and are similar to those described for Riparian Areas and Wetlands. Improved livestock grazing practices in all allotments within the CESA including Beaver Creek, Stag Mountain, Mexican Field and Cotant Seeding Allotments are resulting in better habitat conditions for fish and other forms of aquatic life. Improvements in stream and riparian habitat conditions would help buffer detrimental effects of climate change on aquatic life occurring as a result of reduced streamflows and higher water temperatures.

3.9 Wildlife, Special Status Species including Threatened, Endangered and Candidate Species, Migratory Birds and Special Status Plant Species

3.9.1 Affected Environment

The allotments provides habitat for a diversity of wildlife species, including mule deer, pronghorn, and numerous species of upland game birds, small mammals, songbirds, waterfowl, shorebirds, raptors, amphibians, reptiles, and invertebrates. The species on the allotments were analyzed as part of the September 2011 Cotant Seeding and Mexican Field Draft Standards and Guidelines (S and G) assessments available from the BLM Tuscarora Field Office (BLM 2011a and b). Please see these assessments in regard to more detailed information regarding wildlife habitat on the allotments. The September 2011 S and G assessments concluded that current livestock grazing was in conformance with all Standards and Guidelines for both allotments. The Habitat Standard was met on the Mexican Field Allotment and partially met on the Cotant Seeding Allotment. The partially met conclusion was due, in large part, to “Fair” mule deer habitat condition ratings in 2008 and 2010; this included unsatisfactory form class for bitterbrush, a key browse species for mule deer, in 2010.

Special Status Species

Special status species include species that are listed or proposed for listing as threatened or endangered under the Endangered Species Act (ESA), species that are candidates for listing under the ESA, and BLM “NV Status” and State of Nevada “State Status” species that are on Nevada BLM’s list of Sensitive Species as of October 21, 2011.

No Federal- listed threatened or endangered wildlife or plant species are known to exist on the allotments. No plant species designated as Special Status Species by BLM or the State of Nevada are known to exist on the allotments.

Federally Listed, Proposed and Candidate Species (Terrestrial Species)

There are no known terrestrial wildlife species that are listed as threatened or endangered under the Endangered Species Act (Appendix 1-4 of Cotant Seeding or Mexican Field Draft Standards and Guidelines Assessment).

Federal Candidate Species – Greater Sage-Grouse (*Centrocercus urophasianus*) (sage-grouse)

On March 5, 2010, the U.S. Fish and Wildlife Service announced Proposed Rules* in the Federal Register for the notice of 12-month findings for petitions to list the Greater Sage-Grouse as a threatened or endangered species. The Fact Sheet for this finding iterated the following, *“After thoroughly analyzing the best scientific and commercial information available, the Fish and Wildlife Service has concluded that the greater sage-grouse warrants protection under the Endangered Species Act. However, the Service has determined that proposing the species for protection is precluded by the need to take action on other species facing more immediate and severe extinction threats. As a result, the sage-grouse will be added to the list of species that are candidates for Endangered Species Act protection. The Service will review the status of the sage-grouse annually, as we do all candidate species, to determine whether it warrants more immediate attention.”*

[* The following is stated for this finding in the Federal Register, *“This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.”*]

In Nevada, the BLM has recognized that generally lower moisture regimes prevail throughout the majority of Nevada’s sagebrush ecosystem. Therefore, BLM developed a set of sage grouse management guidelines consistent with the Western Association of Fish and Wildlife Agencies (WAFWA) guidelines, yet adapted to Nevada to provide interim guidance to BLM field managers without restricting options being explored for local sage-grouse conservation planning. The *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada, October 2000* (Nevada BLM Guidelines) provide guidelines to BLM for public lands activities within the context of a multiple use mandate. Since the guidelines are consistent with the WAFWA guidelines and more specific to Nevada, the Elko District Office would continue to both guidelines in managing resources and planning projects to enhance sage grouse and/or sagebrush habitat. Nevada BLM Guidelines specific to Fire Management, Emergency Fire Rehabilitation, and Vegetation Treatments have been incorporated into the *Elko and Wells RMPs Fire Management Amendment* as standard operating procedures (BLM 2003).

As of December 27, 2011, BLM National Office Washington D.C. has given policy direction, in the form of two instruction memorandums (IMs), to BLM offices with responsibilities to manage habitat for Greater Sage-Grouse. IM 2012-043 is the interim policy for activities within Year 2012-mapped (as amended) “Preliminary Priority Habitat (PPH).” IM 2012-044 gives guidance on the Conservation Measures identified by the National Sage-Grouse Technical Team while land use plan revisions occur. This information could be located electronically on the following BLM internet website link address: <http://www.blm.gov/wo/st/en/prog/more/sagegrouse.html> . All public land within the Cotant Seeding and Mexican Field Allotments are within PPH for sage-grouse.

Please refer to the September 2011 Standards and Guidelines Assessment for detailed information regarding sage-grouse habitat on the allotments.

Other Special Status Wildlife Species

As of the October 21, 2011 list, the area provides habitat for 17 avian and mammalian species, and one butterfly species, designated as Nevada BLM Sensitive Species or State of Nevada Special Status Species, on a seasonal or yearlong basis.

The seven BLM-designated species include: Northern Goshawk, Loggerhead Shrike, Sage Thrasher, Brewer's Sparrow, Bald Eagle, Spotted Bat and Pygmy Rabbit.

The 11 State-designated species include Golden Eagle, Black-Rosy Finch, and Lewis' Woodpecker, Western Burrowing Owl, Swainson's hawk, Ferruginous Hawk, California Myotis (bat), Little Brown Myotis, Yuma Myotis, Preble's Shrew and Mattoni's blue butterfly. Information on Sage Thrasher and Brewer's Sparrow, as new BLM-designated species since the September 2011 S and G assessment, and the State Sensitive Species designated since the same date, are shown below. Additional information on the other sensitive species can be found in Appendix 4 of the September 2011 S and G assessment.

Sage Thrasher (*Oreoscoptes montanus*) – This species is a sagebrush-obligate nests in the canopy of sagebrush within sagebrush grasslands. Sagebrush obligate wildlife species are defined as those species being restricted to sagebrush habitats during the breeding season or on a year-round basis. The area provides potential nesting and foraging habitat. This species is commonly observed by BLM personnel during the summer period on intact sagebrush habitat areas on the Elko District.

Brewer's Sparrow (*Spizella breweri*) – This species is considered a sagebrush-obligate and nests in the canopy of sagebrush within sagebrush grasslands. The area provides potential nesting and foraging habitat.

State Sensitive Species

California myotis (*Myotis californicus*) - Information from the Nevada Department of Wildlife indicate that this species could potentially occur on both allotments. Relative to the allotments and surrounding terrain, it could roost in "loose rocks" and utilize both uplands and riparian /meadow habitat for insect foraging.

Little Brown Myotis (*Myotis lucifugus*) – Information from the Nevada Department of Wildlife indicate that this species could potentially occur on both allotments. This species is also referred to as the Little Brown Bat. Relative to the allotments and surrounding terrain, it could roost in cave entrances and utilize both uplands and riparian/meadow habitat for insect foraging.

Mattoni's blue butterfly (*Euphilotes pallescens mattonii*) - The area potentially provides habitat for this butterfly species. It is found in association with slender buckwheat (*Eriogonum microthecum* var. *laxiflorum*). This buckwheat is occurs in mountain habitats above approximately 4,900 feet in elevation, including ecological sites on both allotments and might occur on the area. "Buckwheat" was identified as part of rangeland monitoring efforts on July 8, 2008; however, notes regarding this effort did not indicate if slender buckwheat was the species identified.

Other Migratory Birds

In addition to those protections offered to certain migratory birds that are considered Nevada BLM or State Sensitive Species, all migratory birds are offered certain protections under the Migratory Bird Treaty Act and Presidential Executive Order. On January 11, 2001, President Clinton signed the Migratory Bird Executive Order. This Executive Order outlines the responsibilities of Federal agencies to protect migratory birds and directs executive departments

and agencies to take certain actions to further implement the Migratory Bird Treaty Act. A list of the migratory birds affected by the President’s executive order is contained in 50 CFR 10.13. and further referenced in Appendix 2 of the Standards and Guidelines Assessment.

3.9.2 Direct and Indirect Effects of Alternatives

All Alternatives

Regarding analysis of the effects shown below for Alternatives 1-4, sage-grouse are considered to be an “umbrella species” (Rowland et.al. 2006) for other wildlife species, including sagebrush-obligate species, that inhabit similar sagebrush vegetation types on the allotments on a seasonal or yearlong basis. Positive or negative effects to sage-grouse habitat would generally have similar effects to the habitat of other wildlife species including the prey species of predatory birds and mammals. Other “featured species” including mule deer, pronghorn and pygmy rabbits, and EA elements including Special Status Species bats and Migratory Birds are discussed in more detail.

Table 7. Environmental Consequences by Wildlife Habitat Resources

	Wildlife Inc. RMP-featured species: Mule Deer and Pronghorn Antelope	Special Status Species (SSS) Inc. RMP-featured species: Sage-Grouse Candidate Species as an “umbrella” species	Migratory Birds
Alternative 1 -No Action**	<p>“Good” Mule Deer Habitat Condition Rating, as indicated by 2010 monitoring efforts, could be affected.</p> <p>Key Browse (bitterbrush) Form Class could be negatively affected similar to what was monitored in 1987-88, particularly, if no active permitted use adjustments are considered by the permittee during periods of drought, nominal leader growth and any impacts from the prior year(s).</p> <p>Grazing during the growing season in three out of four years within the Mexican Field Allotment could affect mule deer habitat forage and cover diversity.</p>	<p>Sage-grouse herbaceous cover and forage diversity could be affected if no active permitted use adjustments are considered for drought periods and nominal native grass and forb growth.</p> <p>Without “adaptive” management practices (e.g., active day-to-day herding and alternative artificial water sources away from natural sources), grazing on an annual basis during the “hot season” would impact SSS habitat associated with riparian/meadow areas including sage-grouse summer/late brood-rearing habitat. In regard to raptor designated as SSS, it would affect habitat utilized by prey species.</p>	<p>There is the potential for negative impacts on both upland and riparian/meadow habitat during those years with nominal growth (e.g. drought) without permittee-initiated grazing adjustments.</p> <p>See Special Status Species column in regard to potential negative impacts to riparian habitat.</p>
Alternative 2- Proposed Action**	<p>Grazing treatments proposed on the Cotant Seeding Allotment from May 1 through August 31 and May 10 through September 10 on the Mexican Field Allotment, and any needed adjustments, would help to maintain a “Good” Mule Deer Habitat Condition Rating inc. satisfactory age and form class on the Mexican Field Allotment. The proposed grazing system on the</p>	<p>Grazing treatments proposed on both allotments would help to maintain or improve upland areas that provide SSS habitat including sage-grouse nesting and fall/winter habitat.</p> <p>“Hot season” limitation considerations would help to maintain proper functioning condition of riparian and meadow areas that provide SSS foraging</p>	<p>Considerations for grazing adjustments would help maintain habitat during both “non-drought” and drought conditions.</p> <p>See Special Status Species, shown above, in regard to potential positive impacts for upland and riparian</p>

	Wildlife Inc. RMP-featured species: Mule Deer and Pronghorn Antelope	Special Status Species (SSS) Inc. RMP-featured species: Sage-Grouse Candidate Species as an “umbrella” species	Migratory Birds
	Cotant Seeding Allotment would help to improve the same.	habitat including sage-grouse summer/late brood-rearing habitat.	habitat.
Alternative 3- Reduced Grazing	<p>Mexican Field Allotment: Big Game Habitat Condition rating has improved from “Fair” in 1987 and 1992 to “Good” in 2010 with satisfactory key browse age and form class. The “good” rating would be expected to continue on the allotment.</p> <p>Cotant Seeding Allotment: Big Game Habitat Condition rating has improved from “Poor” in 1988, “Fair” in 2008, and “Fair” 2010 with unsatisfactory key browse form class. Key browse utilization by livestock could potentially be minimized under this alternative with the use of a block or liquid protein supplement provided by the permittee. Improvement of the form class and forage diversity with light herbaceous utilization would be expected under this alternative to allow for improvement to a good rating. Planned ongoing modification and marking (flight diverters) of fencing would also help to improve the rating.</p>	<p>Mexican Field Allotment: Ongoing grazing treatments with no use to slight use on key perennial herbaceous species would help to maintain or improve upland areas that provide cover and forage diversity on SSS habitat including sage-grouse nesting and fall/winter habitat. Ongoing satisfactory age and form class of key browse species would help to provide shrub overstory cover as a complement to sagebrush cover and allow for ecological site dynamics.</p> <p>Cotant Seeding Allotment: Ongoing grazing treatments with light use (21-40%) on key perennial herbaceous species would help to improve cover and forage diversity on SSS habitat including sage-grouse nesting and fall/winter habitat. Improvement of the form class of bitterbrush, key browse species, would help to provide shrub overstory cover as a complement to sagebrush cover and allow for ecological site dynamics.</p> <p>The four-year grazing system that limits “hot season” use on the small percentage of the riparian/meadow habitat outside of exclosure areas and deferment of use after seed ripe on upland, would help to maintain or improve riparian/ meadow and upland areas that provide SSS habitat. This would include sage-grouse lekking, nesting/early brood-rearing, summer/late brood-rearing and fall/winter habitat.</p> <p>See Wildlife above in regard to consequences regarding bitterbrush form class and potential improvements outside of grazing system.</p>	<p>See Special Status Species column in regard to potential positive impacts for upland and riparian habitat.</p> <p>The habitat conditions for migratory bird species are likely to be in “good” condition considering mule deer and sage-grouse habitat conditions and PFC ratings mentioned above.</p>

	Wildlife Inc. RMP-featured species: Mule Deer and Pronghorn Antelope	Special Status Species (SSS) Inc. RMP-featured species: Sage-Grouse Candidate Species as an “umbrella” species	Migratory Birds
Alternative 4 - No Grazing	<p>Elimination of livestock grazing would result in maintenance of big game habitat in good condition, or improvement, with any increased perennial herbaceous plant composition. The likely increase in grass and forb availability would enhance wildlife habitat forage and cover diversity. Green rabbitbrush (<i>Chrysothamnus viscidiflorus</i>), an “increaser species”, would still be one of the vegetative species that has been monitored as having one of the highest species composition percentages by cover on both allotments where artificial control, as prioritized, might be needed to help facilitate improved habitat cover and forage diversity.</p> <p>Natural shrub reestablishment on wildfire-affected areas, which includes the majority of the Mexican Field Allotment in 2006, could be suppressed. Bitterbrush was negatively impacted by this fire. The recruitment of young bitterbrush has been observed to increase with “light grazing use” of perennial herbaceous vegetation. It is unknown if any increased big game use, in the absence of livestock use, would still provide for light (21-40%) herbaceous plant utilization.</p> <p>Dense willow cover would likely reestablish on livestock water gaps on Beaver Creek within the Cotant Seeding Allotment over time. These gaps have substantially less willow cover, lack of beaver dams and shallow water areas compared to the same features on adjoining livestock enclosures. One of the gaps has been documented to provide a migration corridor for pronghorn to and from winter range areas. Without ongoing actions to maintain open shallow water areas,</p>	<p>Elimination of livestock grazing would help to maintain or improve upland areas on intact “unburned” areas with shrub cover that provide SSS habitat including sage-grouse nesting and fall/winter habitat. An increase in balanced sagebrush and bitterbrush shrub cover could be suppressed with any competition with dominance by perennial grasses and forbs on recent 2006 wildfire burn areas, as mentioned above.</p> <p>There would be no “hot season” livestock grazing. This would help to maintain proper functioning condition of riparian and meadow areas that provide SSS habitat including sage-grouse summer/late brood-rearing habitat. However, without other use by elk, mule deer, pronghorn or other wildlife, vegetation on riparian/meadow system areas could become tall, dense and rank where use by SSS species could primarily occur only on outer edges and any expanding moist areas due to visual and movement barriers associated with herbaceous plant height (e.g. Nebraska sedge/other mixed forbs and grasses to 21 inches or higher).</p> <p>Sage-grouse use on “open” water gap areas for water and foraging efforts could be impacted by any dense and tall riparian vegetation. Sage-grouse have been observed to fly within several hundred feet, or less, of water sources in the early morning and “walk-in” to the same source, likely to detect danger, prior to obtaining a drink of water. Free water could primarily be contained in a deep water channel course with overhanging/overhead vegetation that could deter use by some species designated as SSS.</p>	<p>Elimination of livestock grazing would help to maintain or improve riparian/meadow (see SSS above) and intact upland areas that provide migratory habitat. Any suppression of shrub cover over time on recent 2006 wildfire burn areas, due to perennial grass and forb competition, could continue to affect the habitat of sagebrush-obligate species or other species that utilize sagebrush habitats on a seasonal or yearlong basis.</p> <p>Many species would benefit from any dense continuous stands of vegetation on the Beaver creek stream course where other species that need habitat with more “open” and shallow water stream course channel areas would not benefit. Target areas managed for more open habitat would help to provide for habitat for many migratory bird species.</p> <p>Existing and new beaver dams would help to provide for stream stabilization, and, in turn, help maintain or improve migratory bird habitat.</p>

	Wildlife Inc. RMP-featured species: Mule Deer and Pronghorn Antelope	Special Status Species (SSS) Inc. RMP-featured species: Sage-Grouse Candidate Species as an “umbrella” species	Migratory Birds
	pronghorn movements could be impacted since heavy upper bank to upper bank willow cover and deep water could act as movement barriers.		

3.9.3 Cumulative Impacts

Wildlife

The collective impact for the Proposed Action and No Action alternative would likely be minor to moderate, respectively. The collective impact for the Reduced Grazing and No Grazing alternatives would likely be minor. For additional information please refer to Appendix 1.

Special Status Species, Threatened, Endangered and Candidate Species

The collective impact for the Proposed Action and No Action alternative would likely be minor to moderate, respectively. The collective impact for the Reduced Grazing and No Grazing alternatives would likely be minor. For additional information please refer to Appendix 1.

Migratory Birds

The collective impact for the Proposed Action and No Action alternative would likely be minor to moderate, respectively. The collective impact for the Reduced Grazing and No Grazing alternatives would likely be minor. For additional information please refer to Appendix 1.

3.10 Cultural Resources

3.10.1 Affected Environment

Regulatory Framework: Projects requiring federal funds and permits require compliance with the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470) and its implementing regulations, Protection of Historic Properties (36 CFR 800; Section 106). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties (i.e., those properties deemed eligible for listing or formally listed on the National Register of Historic Places) and affords the Advisory Council on Historic Preservation, State Historic Preservation Office (SHPO), and interested tribal governments an opportunity to comment on the findings of these federal agencies, as appropriate. Regulations in 36 CFR 800 provide a process for satisfying the requirement of Section 106, namely, resource identification (inventory or survey), significance evaluation, assessment of adverse effects on the significant historic properties, and the resolution of adverse effects through consultation to avoid, minimize, or provide mitigation. Adverse effects include, but are not limited to, destruction or alteration of all or part of a property, removal from or alteration of its surrounding environment; introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting; transfer, sale or lease of property out of federal ownership without adequate conditions or restrictions regarding preservation, maintenance, or use; and neglect of a property resulting in its deterioration or destruction (36 CFR 800.5). The Nevada

State Protocol Agreement outlines the manner in which the BLM and the SHPO agree that the BLM will meet NHPA compliance.

Range allotment permitted activities, including livestock grazing and any associated range development projects, have the potential to adversely affect historic properties on both the Mexican Field and Cotant Seeding allotments. The Nevada State Protocol Agreement Appendix F, Subsection K defines the utilization of a Class II survey sampling strategy in acquiring archaeological data for this assessment.

Background: Nevada has been inhabited by humans for at least 12,000 years. The Western Shoshone claim this area as aboriginal territory with Northern Paiute territory cross-over documented in the oral histories of both peoples. The Euro-American settlement of this territory began with the establishment of trading posts along the California Trail from 1845-1869. Euro-American settlement of the area as well as an influx of Chinese immigrant workers began in earnest in the 1870s with the completion of the California Pacific Railroad in 1869 and the discovery of gold along the Carlin Trend in the early 1870s.

A cultural resource or cultural property is "...a definite location of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence" (USDI-BLM Manual 8100). The term includes historic or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specific social and/or cultural groups" (USDI-BLM Manual 8100). Less than 10% of the two allotments have been inventoried for the location of cultural resources.

Currently there are approximately 17,500 archaeological sites documented within the Elko District, of which only one quarter have been determined to be eligible for the National Register of Historic Places (NRHP) and another quarter are undetermined as to their eligibility status. The kinds of archaeological sites located include homesteads, transportation routes and stations, ranches, animal traps, mines and associated historic-era camps, mills and other facilities, towns, trash dumps, prehistoric (pre-contact) camps, stone tool quarries, rockshelters/caves, rock art, and open air lithic scatters. Numerous Traditional Cultural Properties have been designated through consultation with local Tribal nations.

Assessment data: Cotant Seeding

During the 2010 field season a Class II level survey sampling was conducted for the Cotant Seeding Allotment as per the Nevada State Protocol Agreement. This survey covered 400 acres or 10% of the Cotant Seeding Allotment. The records search of the allotment and surrounding area revealed that one previous archaeological inventory survey had been conducted within the allotment (BLM 1-1149, 1988). Only 2 archaeological sites were located during the 1988 survey. Within the allotment and its surrounding area, the vast majority of archaeological sites occurred within 250 meters of streams and springs.

The Class II stratified inventory sampling strategy utilized this fact, focusing inventory effort in the sample on places near natural water sources. This sample also included a number of areas away from water sources to confirm the predicted site distribution: Prehistoric sites occur predominantly within 200 meters of water within the sample inventory. All of the existing range

improvements within this allotment were revisited during the recent sample inventory without locating any additional cultural resources.

Six new archaeological sites and 10 isolated finds were located, documented, and evaluated for their eligibility to be included in the National Register of Historic Places. At the 2 previously sites documented in 1988, one site (26EK7002) was not relocated in the more recent sample inventory. At the other site (26EK7003) the placement of a mineral block within it resulted in cattle trampling so that only two artifacts were relocated on a site on which archaeologists only documented 5 artifacts in 1988. Three of the newly recorded archaeological sites remain unevaluated in terms of their eligibility for the National Register of Historic Places (NRHP) pending archaeological test excavations. At this time, all sites are unevaluated with regard to their eligibility to the NRHP, and must continue to be preserved in their current condition.

Some evidence of grazing and impacts arising from cattle trampling were observed at all of the 8 known archaeological sites, but was noted to be minor impacts when compared to natural erosional processes also impacting those sites.

Assessment data: Mexican Field

During the 2010 field season a Class II level survey sampling was conducted for the Mexican Field Allotment as per the Nevada State Protocol. The survey covered 625 acres or 20% of the allotment was inventoried. The records search of the allotment and surrounding area revealed that two previous archaeological inventory surveys had been conducted within the allotment prior to 1983 (BLM 1-170 and BLM 1 – 724). Only 2 archaeological sites were located during the 1988 survey. During these two surveys 5 archaeological sites were documented (1 historic, 4 prehistoric). The 5 sites were revisited during the sample inventory (BLM 1-2901) and none of them were determined to be eligible for the NRHP. Within the allotment and its surrounding area, the prehistoric sites were found only to be located within 100 meters of natural water sources.

Evidence of grazing and impacts arising from cattle trampling were observed at all of the documented sites. These impacts were relatively minor and likely no more a contributing factor to the degradation of cultural resources than natural forces. Earlier documentation of the 4 previously recorded sites did not mention the degree to which cattle had impacted the site at the time they were recorded leaving no baseline data to compare present site condition with past. Based on artifact descriptions, it appears that sites in the Mexican Field Allotment have only been minimally adversely impacted due to cattle trampling since they were originally recorded. The rerecording of the sites yielded similar and in some cases greater number of artifacts than when first inventoried in the 1980s. Range improvements within this allotment were revisited during the sample inventory and no additional cultural resources were documented.

3.10.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action

In general, the most commonly occurring adverse effects to Historic Properties associated with livestock grazing include trampling, trailing, and loafing (loitering). Damage caused by these actions include dispersing and destroying artifacts, disrupting site integrity, eradicating

subsurface and/or datable cultural deposits, and promoting erosion. These impacts are generally negligible as long as the cattle are dispersed or not allowed to consistently loiter in localized areas. More severe ground disturbance is likely at areas where livestock loiter due to attractive resources: troughs, salting grounds, and isolated areas of shade near natural water sources. Within both the Mexican Field and Cotant Seeding Allotments, these locations do not appear to coincide with known Historic Properties.

In the No Action (status quo) alternative, impacts noted to sites would not change.

Alternative 2 – Proposed Action

Under the proposed action, no increase in stocking levels is proposed and no new range improvements are envisioned. No increase in the rate or intensity of adverse impacts is likely under this proposed action.

Alternative 3 - Reduced Grazing

Under the Reduced Grazing Alternative, no increase in stocking levels is proposed, and the actual numbers of use are less than half of other alternatives. No new range improvements are envisioned. No increase in the rate or intensity of adverse impacts is likely under this proposed action.

Alternative 4 - No Grazing

Under the No Grazing Alternative, rate or intensity of adverse impacts from range use and/or improvements would cease.

3.10.3 Cumulative Impacts

Past, present, and cumulative land-altering activities in northeastern Nevada affecting cultural resources include wildland and prescribed fires, mining, town/housing interfaces, recreation/OHV use, and other ground disturbing activities. The Proposed Action is not expected to contribute to the acceleration of negative cumulative impacts to cultural resources through the addition of permitting requirements: consultation with the BLM for the placement of mineral blocks, range improvements, and other activities that could negatively impact cultural resource properties. Located cultural resources would be protected through avoidance.

3.11 Water Quality

3.11.1 Affected Environment

Mexican Field and Cotant Seeding Allotments

Direct and Indirect Study Areas: Direct and indirect study areas are the same as for the cumulative effects study area (refer to Table 6 and Map 2).

State water quality criteria outlined in Nevada Administrative Code (NAC) 445A.121 apply to water resources within the Cotant Seeding and Mexican Field Allotments. Numerical water quality standards based on a variety of beneficial uses apply to class B (non-trout) waters including the East Fork of Beaver Creek and Cabin Creek. Seeps and springs on public lands within the Mexican Field Allotment represent unclassified waters having narrative standards. Both the East Fork of Beaver Creek and Cabin Creek are included on Nevada's 303 (d) list of impaired waters (NDEP 2008, BLM 2011a). Beaver Creek is listed for exceedance of total

dissolved solids, iron and total phosphorus, while Cabin Creek is listed for exceedance in total fecal coliform, water temperature and zinc. During recent sampling, total coliform and temperature were found to exceed state standards on the East Fork of Beaver Creek, just downstream from the Mexican Field Allotment (2011a).

3.11.2 Direct and Indirect Effects of Alternatives

All Alternatives

Mexican Field and Cotant Seeding Allotments

Direct and indirect short and long-term impacts are positive or mostly positive on water quality for all alternatives and are similar to those described for Riparian Areas and Wetlands (3.7.2). Actions which improve growth and establishment of riparian vegetation and contribute to improved floodplain function can be inferred to positively influence water quality over the long-term through filtering of nutrients and sediments, energy dissipation, increased groundwater storage, shading of the water column and reduced rates of erosion (Pahl 2010, Prichard et al. 1998).

3.11.3 Cumulative Impacts

Cumulative impacts for all alternatives are positive and are similar to those described for Riparian Areas and Wetlands (3.7.2). Improvements in stream and riparian habitat conditions as a result of improved livestock grazing practices throughout the East Fork Beaver Creek subbasin are inferred to benefit water quality. Better habitat conditions would also help moderate impacts of climate change on water quality occurring as a result of increased flooding and development of warmer ambient conditions.

3.12 Fire Management

3.12.1 Affected Environment

Fire history and fire effects in the Great Basin are a vital component of resource health. Historically, the Cotant Seeding and Mexican Field Allotments were fire adapted and still exhibit these characteristics today. Fire plays a regular disturbance role in the ecosystem preventing a transition to sagebrush dominance. Historic fire return intervals on perennial grass-shrub sites within the Great Basin ranged from 35 -100 years. Invasive annual grasses can alter historic fire return intervals resulting in larger more frequent fires. The Cotant Seeding and Mexican Field Allotments do not have a strong presence of invasive annual grasses, thus fire return intervals have remained at historical disturbance levels. Crested wheatgrass pastures are believed to not be at risk of cheatgrass invasion.

The Cotant Seeding and Mexican Field Allotments fall within the Fire Management Category C, specifically the C-3 polygon identified in the 2004 Elko and Wells Resource Management Plans Fire Management Amendment. General strategies for category C are areas where fire may be desirable to manage ecosystems, but where various factors place constraints on fire use for resource benefit. These areas may include the use of vegetation manipulation. Unplanned ignitions will be managed using the most appropriate and cost-effective suppression response based on threats to life, safety, structures, developments, and other resource values. Where streams, riparian areas, or watersheds exist that provide habitat for federally listed threatened, endangered, or candidate species, suppression tactics will include appropriate SOPs for species protection, except when a threat to life exists. Mechanized equipment use will be consistent

with applicable guidelines, such as for sage grouse and sagebrush ecosystems. The C-3 polygon (Sage/Mountain Brush/Perennial Grass) is specifically managed for maintaining and/or improving age class diversity of sagebrush. Maintaining and/or improving the diversity of sagebrush and perennial grasses and forbs. Prevent further encroachment of annual and non-native plant species. Improve and/or maintain riparian areas to achieve proper functioning condition and other site specific multiple use objectives.

The 2004 Northeast Nevada Fire Management Plan (NEN FMP) identified eleven Fire Management Units (FMUs) within the Elko District BLM. The Cotant Seeding and Mexican Field Allotments are located within the Marys River Management Unit (FMU). The Marys River FMU is located in the north central portion of the NEN Fire Planning Unit (FPU). This FMU lies generally within the North Fork Humboldt, Upper Humboldt, and Bruneau/Jarbidge subbasins and is comprised of 1,835,292 acres. Elevation ranges from 5,000 and 8,000 feet mean sea level (msl). Fire history statistics were developed from the 2004 NEN FMP and updated with more recent fire history data collected through BLM Geographical Information System (GIS). A total of 1,392,871 acres has burned in the Marys River FMU since 1980. Some of areas impacted by fire have burned multiple times since 1980.

According to BLM fire records 1980 through present only two fires have occurred in the Mexican Field and Cotant Seeding Allotments. The 2006 Charleston Fire, a complex of multiple fire consumed 100% of the Mexican Field Allotment (3404 acres) and 95 acres the Cotant Seeding Allotment. The Stag Mountain 2 fire burned 54 acres of Mexican Field Allotment in 1986.

3.12.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action

Under the No Action Alternative, vegetative conditions would continue to slowly progress successionaly from grass to shrub dominance until a wildfire disturbance event occurs. Natural (historic) fire regime should continue so-long as invasive annual grass do not increase, thus hastening the fire return interval. There would be no change in suppression strategies and no fuels treatments are planned under this proposed alternative. There are no direct or indirect impacts to fire management from this alternative.

Alternative 2 – Proposed Action

Under this alternative, there would be little difference from the No Action alternative as it applies to fire management. See Alternative 1(No action) above.

Alternative 3 - Reduced Grazing

Under this alternative, there would be little difference from the No Action alternative as it applies to fire management. See Alternative 1(No action) above.

Alternative 4 - No Grazing

Under this alternative, vegetative conditions would continue to slowly progress successionaly from grass to shrub dominance until a fire disturbance event occurs. Vegetation loadings would increase over the other alternatives analyzed due to the lack of grazing. The increase in vegetation loadings would not necessarily increase the continuity of vegetation across the landscape on perennial grass sites but would increase the amount of aerial suspended

vegetation. The result of an increase in aerial suspended vegetation may slightly increase the rate of spread of a wildfire but would increase flame length and heat output thus resulting in a hotter burning wildfire. The burning of aerial suspended vegetation would contribute to increased consumption of shrubs and less fire tolerant grass species reducing mosaic burn patterns. Hotter burning wildfire may result in a change from direct to indirect suppression tactics. The use of indirect tactics could result in slightly larger wildfires.

Natural (historic) fire regime should continue but slightly larger wildfire may occur under this alternative as compared to the other alternatives analyzed.

3.12.3 Cumulative Impacts

The Marys River FMU is described in the Northeastern Nevada Fire Management Plan. The Marys River FMU is the fire planning unit for the Cotant Seeding and Mexican Field Allotment areas and sets forth objectives and strategies for fire management.

Some indirect effects from outside Cotant Seeding and Mexican Field Allotments include the presents of invasive annual grasses. The increase presents of annual grasses can shorten fire return interval and increase wildfire size over historical levels, thus limiting the ability for shrub species to grow and promoting the spread of annual grasses. This cycle could increase in numbers and size of wildfires resulting in additional suppression actions, more ES&R efforts and fuels management activities in the foreseeable future.

Alternatives 1- No Action, 2- Proposed Action, and Alternative 3 – Reduced Grazing, have no direct or indirect impacts to fire management. Only Alternative 4 –No grazing has a slight impact to fire management. None of the alternatives would alter the natural (historic) fire regime.

Overall, cumulative impacts from the Proposed Action when combined with above PPRFFAs would be minimal, the resilience of perennial grass- shrub sites should resist any invasion of annual grasses, and thus there are no cumulative impacts of concern related to Fire Management.

3.13 Lands with Wilderness Characteristics

3.13.1 Affected Environment

Managing the wilderness resource is part of the BLM's multiple use mission. Lands with wilderness characteristics provide a range of uses and benefits in addition to their value as settings for solitude or primitive and unconfined recreation. Guidance and general procedures for conducting wilderness characteristics inventories is found under Section 201 of the Federal Land Policy and Management Act of 1976 (FLPMA) and supersedes all previous guidance on inventorying lands with wilderness characteristics.

Section 201 of FLPMA requires the BLM to maintain on a continuing basis an inventory of all public lands and their resources and other values, which includes wilderness characteristics. FLPMA also provides that the preparation and maintenance of the inventory shall not, of itself, change or prevent change of the management or use of public lands. Regardless of past inventories, the BLM must maintain and update as necessary, its inventory of wilderness resources on public lands. In some circumstances conditions relating to wilderness

characteristics may have changed over time, and an area that was once determined to lack wilderness characteristics may now possess them. The proposed action may impact wilderness characteristics; therefore a wilderness characteristics inventory of the project area is required per BLM Manual 6310 Conducting Wilderness Characteristics Inventory on BLM Lands.

The 1980 Intensive Inventory was conducted on unit NV-010-147, Double Mountain, which was a 36,740 acre unit that was found to lack wilderness characteristics; as well as NV-010-148, Beaver Creek, 22,240 acres; NV-010-149 Lookout Mountain, 44,960 acres; and Mahala Creek, 10,240 acres all of which lacked wilderness characteristics. In November 2009 completed a wilderness characteristics inventory that the Ruby Pipeline crossed and two polygons NV-EK-03-666 North Stag Mountain, and NV-EK-02-656 Lost Wallet Rim were inventoried and found to lack wilderness characteristics, so they were not inventoried for this project.

On July 16, 2013 a Land with Wilderness Characteristics (LWC) inventory was conducted on NV-EK-02-683 Wagon Spring a 137,262 acre area that has portions of Cotant and Mexican Fields Allotment within its boundary. It was determined that Wagon Spring does contain wilderness characteristics.

3.13.2 Direct and Indirect Effects of Alternatives

The Cotant Seeding and Mexican Field Allotments are used for dispersed recreational activities and are contained in three polygons inventoried for wilderness characteristics. Of the three Wagon Spring has been determined to have wilderness characteristics however because no developed recreational facilities exist within either allotment there will be no impacts to the naturalness. Most recreational activities occurring on these allotments are camping and off-road vehicle use associated with the late summer and fall big game hunting seasons. Other dispersed recreation activities include camping, photography, wildlife viewing, sightseeing/exploring, and upland game hunting leaving the area leaving the area largely unaffected by human-use.

Alternative 1 – No Action

Under this alternative dispersed recreation use would continue in the same way as is occurring now. Recreationists see the grazing operation while recreating; they go through gates at fences, and know of or use existing springs and other water sources. Livestock are seen throughout the area but to the casual user, this presence is random and the norm. There are livestock trails present through the vegetation, and recreationists use them rather than walking cross-country.

Alternative 2 – Proposed Action

Actions under this alternative would be the same as the No Action Alternative described above.

Alternative 3 - Reduced Grazing

Actions under this alternative would be the same as the No Action Alternative described above except that fewer numbers of livestock would be viewed by the casual user.

Alternative 4 - No Grazing

Under this alternative the casual user would not see grazing operations while recreating. Trails created by livestock through the vegetation would not be as abundant or maintained by livestock using them and recreationist users would end up walking cross-country.

3.13.3 Cumulative Impacts

There are no cumulative impacts of concern for Land with Wilderness Characteristics.

3.14 Native American Concerns

3.14.1 Affected Environment

Regulatory Framework: Federal law and agency guidance require the BLM to consult with Native American tribal governments concerning the identification of cultural values, religious beliefs, and traditional practices of the Native American peoples that may be affected by actions on BLM-administered lands. This consultation includes the identification of places (i.e., physical locations) of traditional cultural importance to the affected Native American tribes. Places that may be of Native American traditional cultural importance include, but are not limited to:

- Locations associated with the traditional beliefs concerning tribal origins, cultural history, or the nature of the world;
- Locations where religious practitioners go, either in the past or the present, to perform ceremonial activities based on traditional cultural rules or practice; Ancestral habitation sites; Trails; Burial sites; and Places from which plants, animals, minerals, and waters believed to possess healing powers or used for other subsistence purposes, may be taken.
- Some of these locations may be considered sacred to particular Native American individuals or tribes.
- In 1992, the National Historic Preservation Act (NHPA) was amended to explicitly allow that “properties of traditional religious and cultural importance to an Indian tribe may be determined to be eligible for inclusion on the National Register of Historic Places.” If a resource has been identified as having importance in traditional cultural practices and the continuing cultural identity of a community, it may be considered a “traditional cultural property” (TCP). To qualify for nomination to the National Register of Historic Places (NRHP), a TCP must:
 - Be more than 50 years old;
 - Be a place with definable boundaries;
 - Retain integrity; and
 - Meet certain eligibility criteria as outlined for cultural resources in the NHPA (Section 3.8, Cultural Resources).

In addition to NRHP eligibility, some places of cultural and religious importance also must be evaluated to determine if they should be considered under other federal laws, regulations, directives, or policies. These include, but are not limited to, the Native American Graves Protection and Repatriation Act of 1990, American Indian Religious Freedom Act of 1978, Archaeological Resources Protection Act (ARPA) of 1979, and Executive Order (EO) 13007 (Sacred Sites) of 1996.

The effects of federal undertakings on properties of religious or cultural significance to contemporary Native Americans are given consideration under the provisions of EO 13007, American Indian Religious Freedom Act, and recent amendments to the NHPA. As amended, the

NHPA now integrates Indian tribes into the Section 106 compliance process and also strives to make the NHPA and National Environmental Policy Act procedurally compatible. Furthermore, under Native American Graves Protection and Repatriation Act, culturally affiliated Indian tribes and the BLM jointly may develop procedures to be taken when Native American human remains are discovered on federal land.

Tribal Consultation: The BLM, Elko District, Tuscarora Field Office has consulted and shared information with the groups listed in Table 8. Consultation and communication with these tribal/band governments have included letters, phone calls, and visits with the individual Tribal/Band Councils.

Table 8. Summary of Native American Consultation (Consultation is On-Going).

Name of Tribe or Band	Date of Contact	Type of Contact	Comments/Notes
Te-Moak Tribe of Western Shoshone	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
	3-6-2013	Council meeting	Information sharing at Councils request. No Comments or concerns provided.
Battle Mountain Band	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
	4-24-2013	Council Meeting	Information sharing at Councils request. No Comments or concerns provided.
Elko Band	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
	4-17-2013	Council Meeting	Information sharing at Councils request. No Comments or concerns provided.
South Fork Band	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
	3-5-2013	Council meeting	Information sharing at Councils request. No Comments or concerns provided.
Wells Band	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
	3-11-2013	Council meeting	Information sharing at Councils request. No Comments or concerns provided.
Shoshone Paiute Tribes of the Duck Valley Indian Reservation	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
Confederate Tribes of the Goshute Indian Reservation	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
	5-3-2013	Council meeting	Information sharing at Councils request. No Comments or concerns provided.
Duckwater Shoshone Tribe	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
Yomba Shoshone Tribe	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation
	3-8-2013	Council meeting	Information sharing at Councils request. No Comments or concerns provided.
Ely Shoshone Tribe	2-27-2013	Letter from BLM	Invitation to open government-to-government consultation

Tribal ethnographic resources are associated with the cultural practices, beliefs, and traditional history of a community. In general, ethnographic resources include places in oral histories or traditional places, such as particular rock formations, the geothermal water sources, or a rock cairn; large areas, such as landscapes and viewsapes; sacred sites and places used for religious practices; social or traditional gathering areas, such as racing grounds; natural resources, such as plant materials or clay deposits used for arts, crafts, or ceremonies; and places and natural resources traditionally used for non-ceremonial uses, such as trails or camping locations.

3.14.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action

The NEPA process does not require a separate analysis of impacts to religion, spirituality, or sacredness. As a result, references to such beliefs or practices convey only the terminology used by participants involved in the ethnographic studies and tribal consultation. This terminology does not reflect any BLM evaluation, conclusion, or determination that something is or is not religious, sacred, or spiritual in nature, but conveys only the information that has been gathered through tribal consultation and coordination and current and historic ethnographic study.

Tribal consultation was initiated in February 2013. Secondly to this, a number of effects analysis issues were identified based on information provided through the ethnographic studies conducted over the last 20 years, the background research and information provided through Tribal consultation for current and on-going projects across the District.

No Native American Concerns have identified specifically within the Mexican Field and Cotant Seeding Allotments through current consultation efforts. Known issues of concern have remained constant through ethnographic research and on-going information sharing. These include the overall health of all water sources, riparian species, and historic remains (cultural resources).

In the No Action (status quo) alternative, impacts noted to cultural sites would not change. Any issues of concern noted within the water quality and riparian/wetland health would apply.

Alternative 2 – Proposed Action

Under the proposed action, no increase in stocking levels is proposed and no new range improvements are envisioned. No increase in the rate or intensity of adverse impacts is likely to cultural resources under this proposed action. Any issues of concern noted within the water quality and riparian/wetland health would apply.

Alternative 3 - Reduced Grazing

Under the Reduced Grazing, no increase in stocking levels is proposed, and the actual numbers of use are less than half of other alternatives. No new range improvements are envisioned. No increase in the rate or intensity of adverse impacts is likely to cultural resources under this proposed action. Any issues of concern noted within the water quality and riparian/wetland health would apply.

Alternative 4 - No Grazing

Under the No Grazing Alternative, rate or intensity of adverse impacts from range use and/or improvements would cease. Any issues of concern noted within the water quality and riparian/wetland health would apply.

3.14.3 Cumulative Impacts

Past, present, and cumulative land-altering activities in northeastern Nevada Native American Concerns include wildland and prescribed fires, mining, town/housing interfaces, recreation/OHV use, and other ground disturbing activities. The Proposed Action is not expected to contribute to the acceleration of negative cumulative impacts to cultural resources through the addition of permitting requirements: consultation with the BLM for the placement of mineral blocks, range improvements, and other activities that could negatively impact cultural resource properties. Located cultural resources would be protected through avoidance.

3.15 Recreation

3.15.1 Affected Environment

The Cotant Seeding and Mexican Field Allotments are used for dispersed recreational activities. No developed recreational facilities exist within either allotment. Most recreational activities occurring on these allotments are camping and off-road vehicle use associated with the late summer and fall big game hunting seasons. Other dispersed recreation activities include camping, photography, wildlife viewing, sightseeing/exploring, and upland game hunting.

3.15.2 Direct and Indirect Effects of Alternatives

Alternative 1 – No Action

Under this alternative dispersed recreation use would continue in the same way as is occurring now. Recreationists see the grazing operation while recreating; they go through gates at fences, and know of or use existing springs and other water sources. Livestock are seen throughout the area but to the casual user, this presence is random and the norm. There are livestock trails present through the vegetation, and recreationists use them rather than walking cross-country.

Alternative 2 – Proposed Action

Actions under this alternative would be the same as the No Action Alternative described above.

Alternative 3 - Reduced Grazing

Actions under this alternative would be the same as the No Action Alternative described above except that fewer numbers of livestock would be viewed by the casual user.

Alternative 4 - No Grazing

Under this alternative the casual user would not see grazing operations while recreating. Trails created by livestock through the vegetation would not be as abundant or maintained by livestock using them and recreationist users would end up walking cross-country.

3.15.3 Cumulative Impacts

There are no cumulative impacts of concern for recreation.

3.16 Mitigation and Monitoring

Monitoring measures are outlined in the alternatives analyzed. Rangeland monitoring data would continue to be collected for the Cotant Seeding and Mexican Field Allotments to determine if livestock management practices if authorized are conforming to the Standards and Guidelines for Rangeland health and other multiple use objectives for the allotments.

The BLM has implemented the Assessment, Inventory, and Monitoring (AIM) protocol on all of the allotments within the Tuscarora Field Office. This method combines several upland vegetation monitoring methods into one method for quick and accurate vegetation monitoring. Personnel are current establishing AIM monitoring sites within allotments. The Cotant Seeding and Mexican Field Allotments are tentatively scheduled for 2014 to have the AIM protocol established at several new key areas. This will provide the BLM with much more data than is currently available for the allotment and should help the BLM make more informed decisions.

4.0 Consultation and Coordination

4.1 Persons, Groups, or Agencies Consulted

Wolf & Sons, LLC
US Fish & Wildlife Services
Nevada Department of Wildlife
Western Watersheds Project
Nevada Cattlemen's Association
Elko County Natural Resources Management Advisory Commission
Bobbi Royle
Sustainable Grazing Coalition

4.2 Preparers

Jerrie Bertola, Project Lead, Livestock Grazing and Vegetation
Ryan Howell and William B. Fawcett, Cultural Resources
Elizabeth Bigelow, Cultural Resources and Native American Concerns
Ken Wilkinson, Special Status Species, Migratory Birds and Other Wildlife
Carol Evans, Riparian and Wetlands, Aquatic Wildlife
John Daniel, Soil Resources and Water Quality
Bryan Mulligan and Terri Barton, Invasive Non-Native Species
Zack Pratt, Lands with Wilderness Characteristics and Recreation
Tom Reid, Fire Management
Victoria Anne, Planning & Environmental Coordinator
Christopher E. Morris, Assistant Field Manager Renewable Resources

4.3 Distribution

Prior to issuance of any decision to implement the action alternatives and proposed range improvements, this EA will be available for comment on the BLM public web site at:

http://www.blm.gov/nv/st/en/fo/elko_field_office/blm_information/nepa.html

A notice of availability and/or hard copies of the EA will be sent to those individuals or organizations that have identified themselves as “Interested Public” and have requested to be involved in management decisions for the Cotant Seeding and Mexican Field Allotments.

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APPENDIX 1

Detailed Cumulative Impacts for Wildlife, Special Status Species, Threatened, Endangered and Candidate Species, and Migratory Birds.

Table A. Detailed Cumulative Impacts for Wildlife, Special Status Species, Threatened, Endangered, Candidate Species, and Migratory Birds.

Resource	Impacts from Past and Present Actions →	Impacts from RFFA's →	Impacts from the Alternatives →	= Cumulative Impact
Wildlife	<p>Past grazing practices between the mid to late 1800s and the late 1900s have resulted in negative impacts to habitat with improvements since the early 1990s. Creation of water catchments, emphasized for livestock use, has benefitted many species by allowing additional water and foraging sources. Livestock control fencing is a hazard to many species and entanglement mortalities have been documented on the Elko District. Large spans have been modified since the 1990s.</p> <p>Past and present agriculture has had positive impacts associated with forage and cover diversity for wildlife on riparian stream course and meadow areas. Some negative impacts have occurred where habitat has been altered or is largely inaccessible (e.g., fencing construction that restricts access).</p> <p>Present recreation has likely resulted in seasonal wildlife displacement as the following has increased: local human population and use seven days a week (e.g., mining shift work), OHV purchases, creation of two-track roads, opportunities and interest for elk and pronghorn scouting and hunting, and elk and deer antler gathering.</p> <p>Wildfires have impacted scores of thousands of acres since Year 2000 with a mix of negative and positive impacts depending on the species. For RMP-featured species, mule deer have had primarily negative impacts with some positive impacts. Pronghorn have primarily positive impacts with some negative</p>	<p>Adherence to the Standards for Rangeland Health should limit impacts to wildlife from grazing.</p> <p>Increased recreation, without an enforced travel management plan, could result in ongoing habitat impacts and seasonal wildlife displacement.</p> <p>Bitterbrush and sagebrush planting efforts are proposed within the Mexican Field Allotment to augment previous wildfire rehabilitation seeding efforts. This is part of a proposed planting effort on several areas within the CESA. This would be a positive impact to allow for shrub cover to help provide forage and cover diversity. Ongoing proposed fence modification work would help to both facilitate wildlife movements and reduce the potential for collisions with fence wire.</p>	<p>The proposed grazing systems under the Proposed Action, Reduced Grazing and No Action alternatives should prevent substantial impacts.</p> <p>The No Grazing alternative would have a beneficial impact for most species but would still require ongoing long-term management considerations and actions for some species.</p>	<p>The collective impact for the Proposed Action and No Action alternative would likely be minor to moderate, respectively.</p> <p>The collective impact for the Reduced Grazing and No Grazing alternatives would likely be minor.</p>

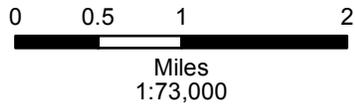
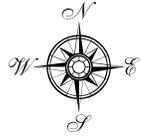
Resource	Impacts from Past and Present Actions →	Impacts from RFFA's →	Impacts from the Alternatives →	= Cumulative Impact
	<p>impacts. Approximately 297 acres were seeded with a shrub, grass and forb mix on the Mexican Field Allotment as part of post-Charleston Fire rehabilitation efforts on tens of thousands of acres seeded on the CESA since 2000.</p>			
<p>Special Status Species (SSS) and Threatened, Endangered and Candidate Species</p> <p>Sage-grouse as Umbrella-Species Emphasis</p>	<p>Some past grazing practices between the mid to late 1800s and the late 1900s have resulted in negative impacts to habitat with improvements since the early 1990s. Creation of water catchments, emphasized for livestock use, has benefitted many SSS by allowing additional water and foraging sources. Livestock control fencing are hazards to many species and collisions by sage-grouse and burrowing owls have been documented on the Elko District. Some spans have been marked with flight diverters.</p> <p>Past and present agriculture has had positive impacts associated with forage and cover diversity for wildlife on riparian /meadow areas. Some negative impacts have occurred where habitat has been altered or fencing is a hazard.</p> <p>Present recreation has likely resulted in seasonal wildlife displacement as mentioned above under Wildlife. At least one major access road for recreation is within a documented lek and winter concentration area for sage-grouse.</p> <p>BLM Instruction memoranda provide policies and procedures, and direction for sage-grouse habitat management.</p> <p>Wildfires have impacted scores of thousands</p>	<p>Adherence to the Standards for Rangeland Health should limit impacts to SSS from grazing. Adherence to BLM instruction memoranda, plans, MOUs and guidance for SSS (e.g., sage-grouse, eagles, bats, pygmy rabbits) would help to improve habitat. This would also help to improve the habitat of many species designated as SSS.</p> <p>Increased recreation, without an enforced travel management plan, could result in ongoing habitat impacts and seasonal wildlife displacement.</p> <p>Wildfire rehabilitation would continue to be a priority with emphasis on sage-grouse and pygmy rabbit habitat.</p> <p>Ongoing efforts to augment previous wildfire rehabilitation seeding efforts, as mentioned above under Wildlife, would help to improve SSS habitat. Proposed fence modification and marking (flight diverter) work on grazing allotments, within thousands of acres of SSS habitat, with emphasis on sage-grouse habitat, would help to reduce the potential for sage-grouse/other wildlife collisions with fence wire.</p>	<p>The proposed grazing systems under the Proposed Action, Reduced Grazing and No Action alternatives should prevent substantial impacts.</p> <p>The No Grazing alternative would have a beneficial impact for most species designated as SSS but would still require ongoing long-term management considerations and actions for some species.</p>	<p>The collective impact for the Proposed Action and No Action alternative would likely be minor to moderate, respectively.</p> <p>The collective impact for the Reduced Grazing and No Grazing alternatives would likely be minor.</p>

Resource	Impacts from Past and Present Actions →	Impacts from RFFA's →	Impacts from the Alternatives →	= Cumulative Impact
	<p>of acres since Year 2000 with a mix of negative and positive impacts – perennial forb and grass composition has increased while sagebrush/bitterbrush shrub cover has decreased. Approximately 297 acres were seeded with a shrub, grass and forb mix on the Mexican Field Allotment as part of post-Charleston Fire rehabilitation efforts with tens of thousands of acres seeded on the CESA since 2000.</p>			
Migratory Birds	<p>Some past grazing practices between the mid to late 1800s and the late 1900s have resulted in negative impacts to habitat with improvements since the early 1990s. Creation of water catchments, emphasized for livestock use, have benefitted many migratory bird species by allowing additional water, foraging, resting, nesting and young-rearing sources. Livestock control fencing are hazards to many species and collisions have been documented on the Elko District. Some spans have been marked.</p> <p>Past and present agriculture has had positive impacts associated with forage and cover diversity for wildlife on riparian /meadow areas. Some negative impacts have occurred where habitat has been altered or fencing is a hazard.</p> <p>Present recreation has likely resulted in seasonal wildlife displacement as mentioned above under Wildlife.</p> <p>BLM Instruction memoranda provide policies, procedures, and direction for sage-grouse habitat management.</p>	<p>Ongoing adherence to the 2001 Executive Order and 2010 MOU with the U.S. Fish and Wildlife Service should limit impacts to migratory birds from grazing. Adherence to BLM Instruction memoranda would help to improve sage-grouse habitat.</p> <p>Increased recreation, without an enforced travel management plan, could result in ongoing habitat impacts and seasonal migratory bird displacement.</p> <p>Wildfire rehabilitation would continue to occur with beneficial impacts to migratory bird habitat.</p> <p>Ongoing efforts to augment previous wildfire rehabilitation seeding efforts, as mentioned above under Wildlife, would help to improve habitat. Proposed fence modification and marking (flight diverter) work on grazing allotments, within thousands of acres of habitat, would help to reduce the potential for collisions with fence wire.</p>	<p>The proposed grazing systems under the Proposed Action, Reduced Grazing and No Action alternatives should prevent substantial impacts.</p> <p>The No Grazing alternative would have a beneficial impact for many migratory bird species but would still require ongoing long-term management considerations and actions for some species.</p>	<p>The collective impact for the Proposed Action and No Action alternative would likely be minor to moderate, respectively.</p> <p>The collective impact for the Reduced Grazing and No Grazing alternatives would likely be minor.</p>

Resource	Impacts from Past and Present Actions →	Impacts from RFFA's →	Impacts from the Alternatives →	= <i>Cumulative Impact</i>
	<p>Wildfires have impacted scores of thousands of acres since Year 2000 with a mix of negative and positive impacts – perennial forb and grass composition has increased while sagebrush shrub cover has decreased.</p> <p>Approximately 297 acres were seeded with a shrub, grass and forb mix on the Mexican Field Allotment as part of post-Charleston Fire rehabilitation efforts with tens of thousands of acres seeded since 2000.</p>			

MAPS

Map 1. Mexican Field & Cotant Seeding Allotments General Location CESA Map

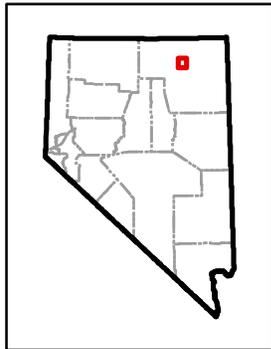


Legend

- Grazing Allotment Boundaries
- Pasture Fences
- Township
- Section

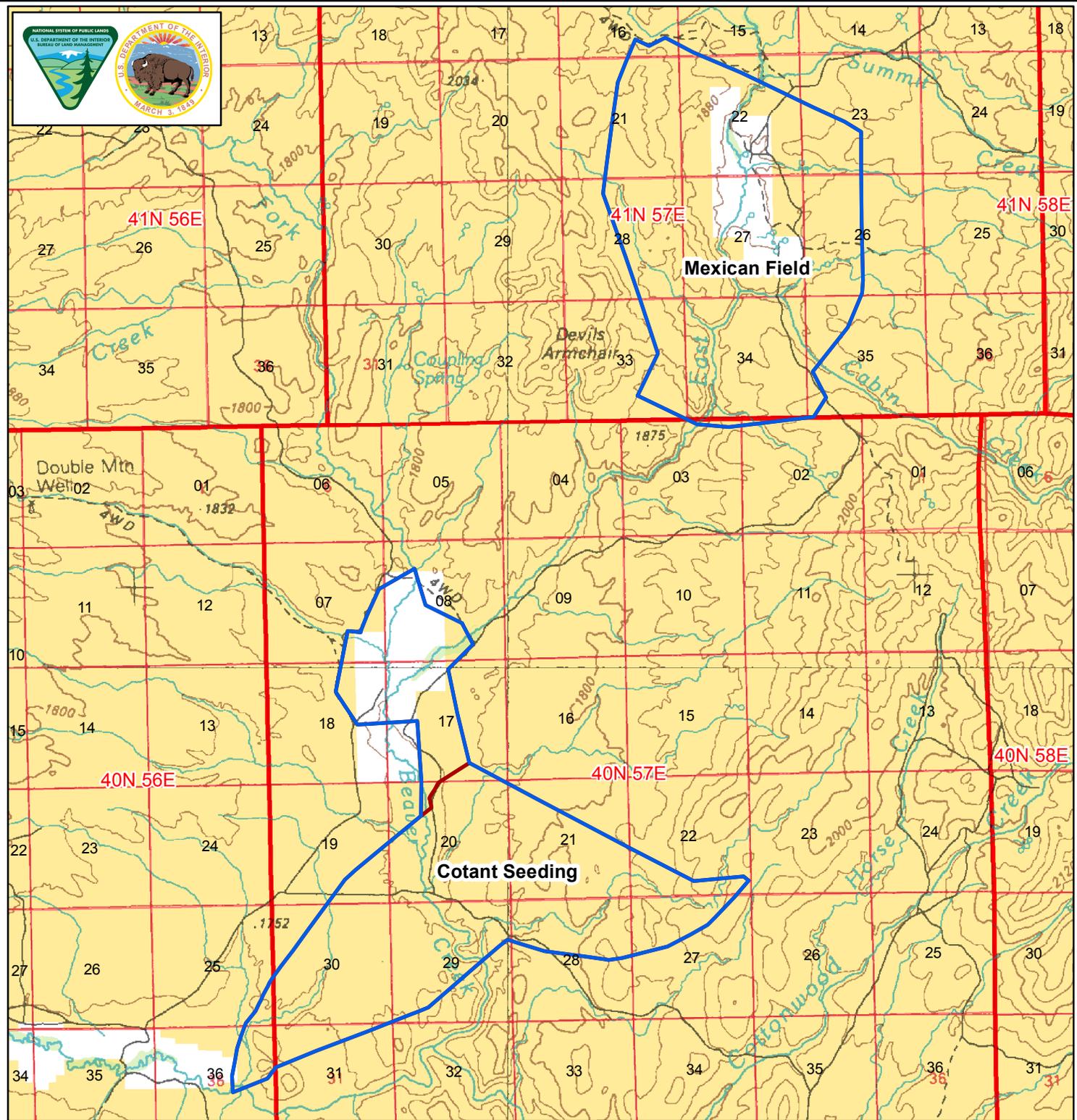
Land Status Abbreviation

- BLM
- PVT

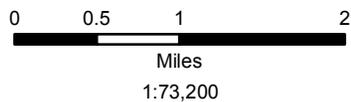
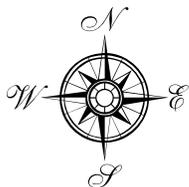


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Map 2. Mexican Field & Cotant Seeding Allotments HUC CESA Map



Legend

- Grazing Allotment Boundaries
- Pasture Fences
- HUC 12 (Sub-Watershed)

Land Status

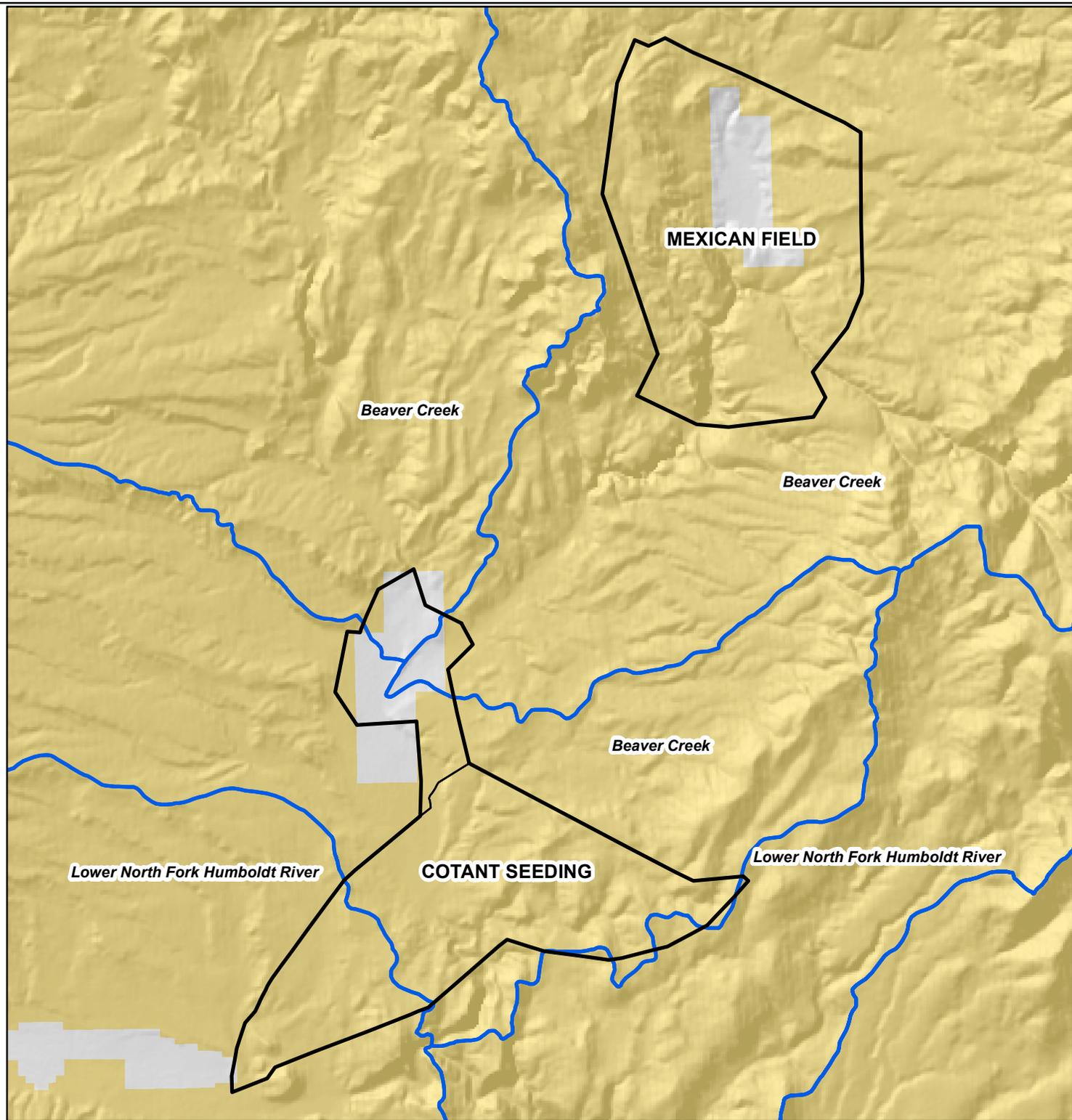
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- PVT

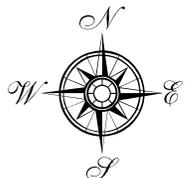


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Map 3. Mexican Field & Cotant Seeding Allotments NDOW Management Unit CESA Map



Legend

- Grazing Allotment Boundaries
- Pasture Fences
- Hunt Units

Land Status

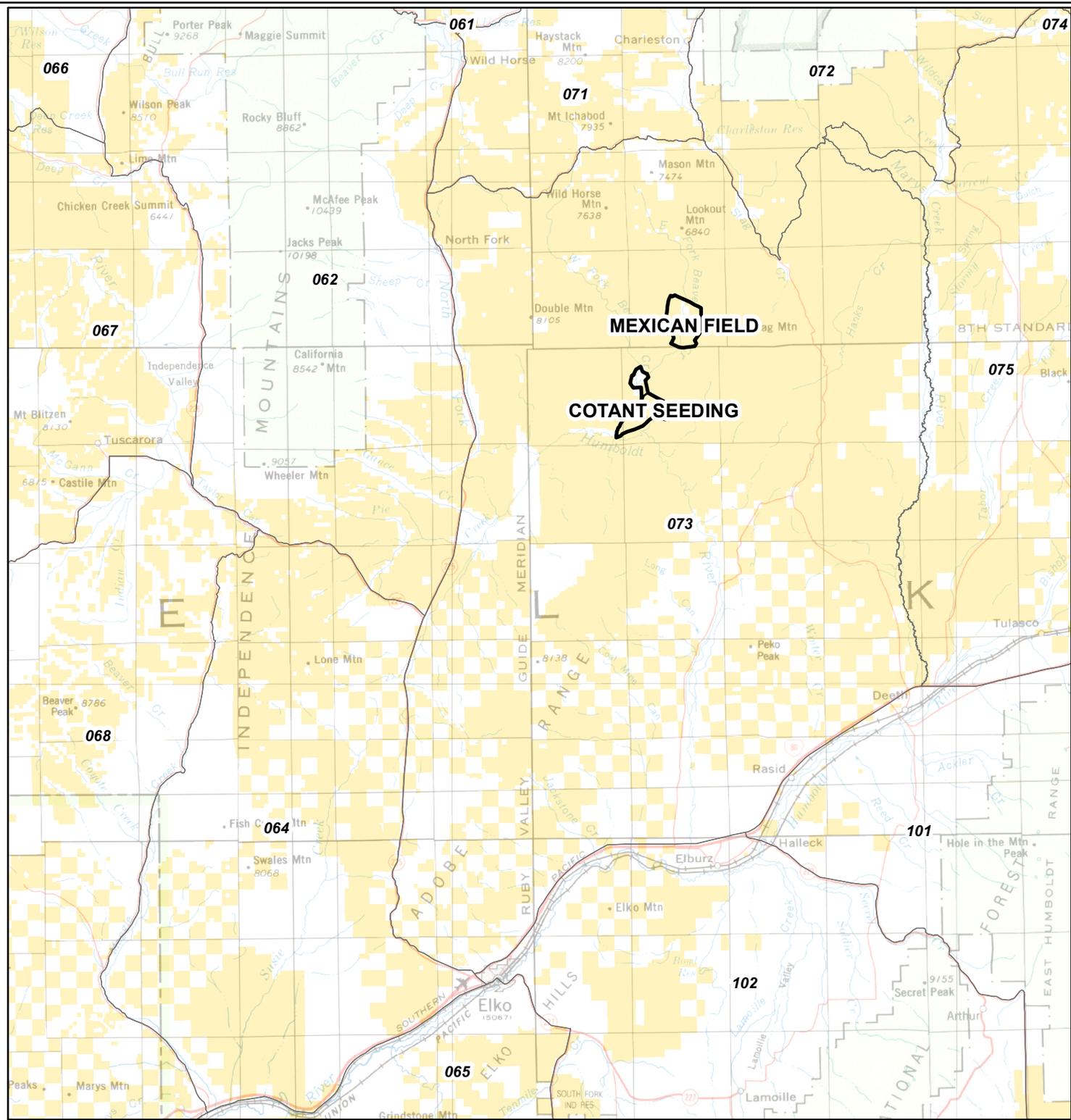
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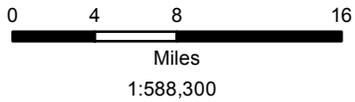
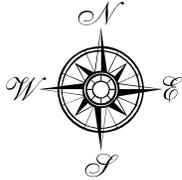


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Map 4. Mexican Field & Cotant Seeding Allotments PMU Areas



Legend

- Grazing Allotment Boundaries
- PMU Boundary

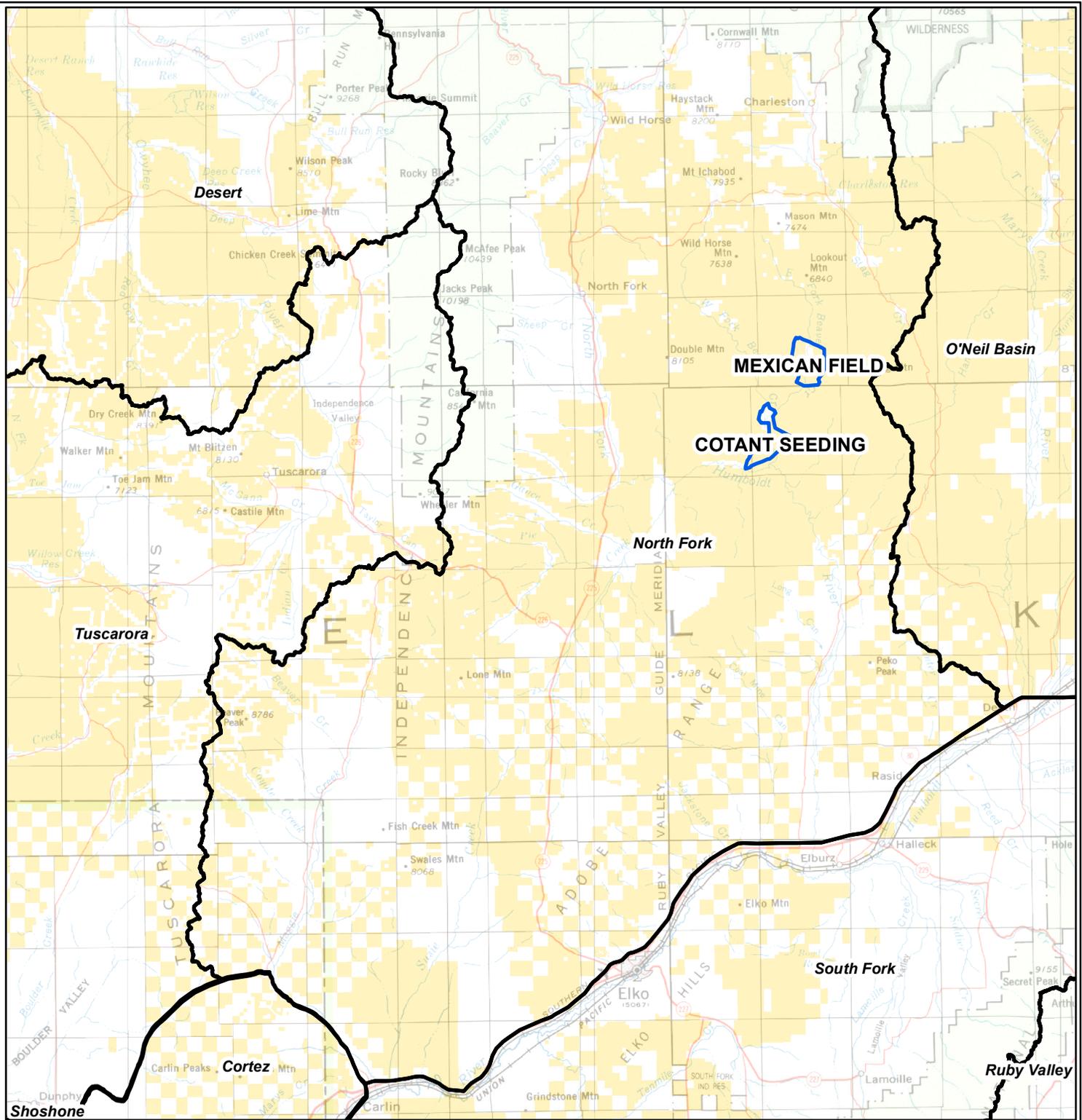
Land Status Abbreviation

- BLM
- PVT

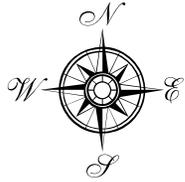


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Map 5. Mexican Field & Cotant Seeding Allotments FMU Boundaries



Legend

- Grazing Allotment Boundaries
- FMU Boundaries

Land Status

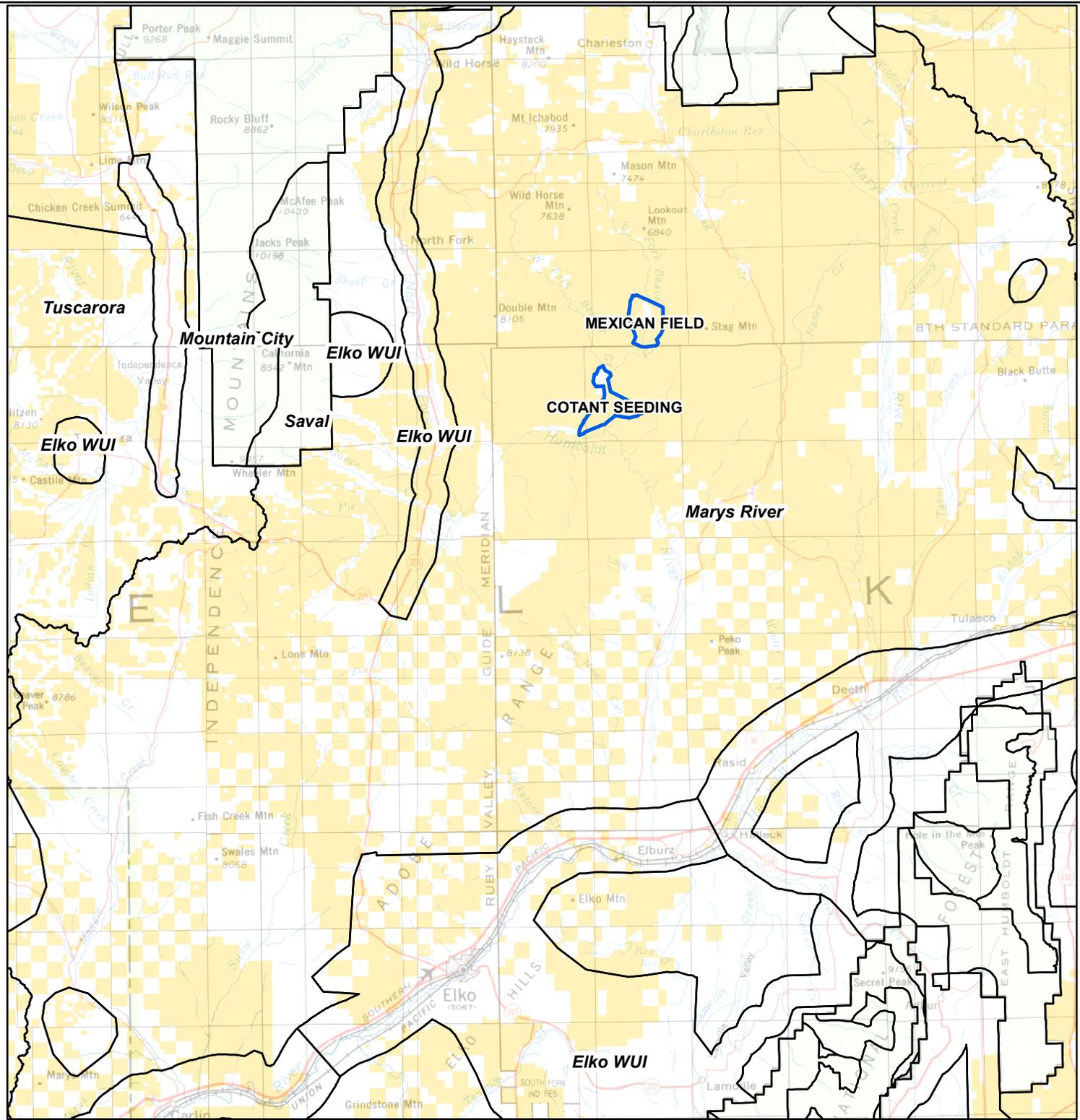
Abbreviation

- BLM
- PVT

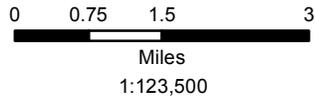
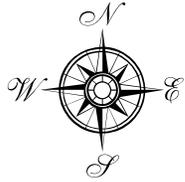


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Map 6. Mexican Field & Cotant Seeding Allotments LWC Boundaries



Legend

-  Grazing Allotment Boundaries
- Lands with Wilderness Characteristics**
-  NV-EK-02-656
-  NV-EK-02-683
-  NV-EK-03-666
- Land Status**
- Abbreviation**
-  BLM
-  PVT



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