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United States Department of the Interior
Bureau of Land Management

Environmental Assessment
Issuance of Grazing Permit to Russell Moon and Implementation of an Allotment Management Plan (AMP) for the Dry Gulch #04517 and Alkali Springs #04530 Allotments.

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455 Emerson Street
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BLM

Table of Contents

CHAPTER 1 - INTRODUCTION

1.1 IDENTIFYING INFORMATION

PROJECT NAME**:** Issuance of a grazing permit to Russell Moon and implementation of an Allotment Management Plan (AMP) for the Dry Gulch #04517 and Alkali Springs #04530 Allotments.

CASEFILE/ALLOTMENT NUMBER: 0504688, 04517, 04530.

1.2 PROJECT LOCATION AND LEGAL DESCRIPTION

LEGAL DESCRIPTION: see Allotment Map, Attachment 1a.

Dry Gulch #04517 - T11N, R93W, all or portions of sections 1, 2, 11, 12, 13, 14, 23, 24

4,112 acres - BLM

Alkali Springs #04530 - T12N, R93W, all or portions of sections 17 - 20, 29, 30 - 33
T12N, R94W, all or portions of sections 13, 14, 23 – 26, 35, 36
T11N, R93W, all or portions of sections 17 – 20, 28, 29, 32, 33
T11N, R94W, all or portions of sections 1, 2, 10 – 15, 23, 24

11,079 acres – BLM
4,283 acres – Private
1,970 acres - State
17,332 acres - Total

COUNTY AND GENERAL LOCATION: North central Moffat County just south of the Wyoming State Line/Little Snake River.

LANDSCAPE DESCRIPTION: The majority of the allotments are high desert sagebrush grasslands moving north toward the Little Snake River basin the increase in alkali greasewood flats is apparent. Surface runoff for both allotments drains north to the Little Snake River. Elevations throughout both allotments range from 6,200 to 6,800 feet.

1.3 BACKGROUND

Records show that the area now known as the Alkali Springs Allotment #04530 has been authorized for livestock grazing since at least 1956 to Norma Evans. The 1956 permit was for 120 cattle from 05/01 to 10/30. At that time the area was known as the Scandinavia Unit which was run in common with other operators, at some point the name was changed to the Sevenmile Common Allotment #4519. In 1967 Norma Evans was a partner in what is referred to as the Cow Creek Purchase that acquired additional Federal Range grazing preference. Sometime prior to 1974 the Alkali Springs Allotment #04530 was carved out of the Sevenmile Common Allotment. Since the early 70's both the Alkali Springs #04530 and Dry Gulch #04517 Allotments have been recognized as individually authorized to Norma Evans. In 2005 both allotments were transferred from Norma Evans to Mark and Roxine Foster (#0500202). The

Fosters permit #0500202 expired in 2009 and has been authorized under congressional appropriations act authority since that time.

In 2012 Foster's sold all applicable base property to Russell Moon, Mr. Moon has applied for the grazing preference previously held by the Foster's. Transfer of grazing preference from Foster to Moon is Categorically Excluded from environmental analysis under the National Environmental Policy Act (NEPA) and is only mentioned in this document as a procedural administrative action.

1.4 PURPOSE AND NEED

BLM permit #0500202, which authorized livestock grazing on the Alkali Springs Allotment #04530 and the Dry Gulch Allotment #04517 was cancelled without notice upon the loss of control of base property through a real estate transaction (sale). The purchaser of the base property in which grazing preference for the above mentioned allotments is attached has applied for a grazing permit with proposed changes to the previously authorized terms and conditions. This permit is subject to renewal at the discretion of the Secretary of the Interior, who delegated the authority to BLM, for a period of up to ten years. BLM has the authority to renew the livestock grazing permits and leases consistent with the provisions of the *Taylor Grazing Act, Public Rangelands Improvement Act, Federal Land Policy and Management Act,* and Little Snake Field Office's *Record of Decision and Resource Management Plan.* This plan includes the *Colorado Public Land Health Standards* and the *Guidelines for Grazing Management.*

BLM is required to provide for public uses of public land resources under the principles of multiple use and sustained yield. Among these uses is the allocation of forage for the purposes of domestic livestock grazing. BLM allocates grazing privileges in a manner that ensures orderly and sustainable consumption of forage while ensuring that wildlife habitat, vegetative, and soil resources remain healthy and provide for a wide array of other public benefits.

The Alkali Springs Allotment #04530 was assessed for Land Health Standards in 2003 and was found not to be meeting standards due to excessive annual noxious weeds that are impacting native vegetation diversity and wildlife habitat. The BLM is taking action to mitigate this condition with development of an AMP implementing a grazing system designed to reduce annual grasses and provide deferment from grazing pressure for native vegetation, this action is in cooperation with the applicant and is reflected in the Proposed Action.

The following Environmental Assessment (EA) would analyze the impacts of livestock grazing on public land managed by the BLM. The analysis would recommend terms and conditions to the permit/lease which improve or maintain public land health. The Proposed Action would be assessed for meeting land health standards.

In order to graze livestock on public land, the livestock producer (permittee) must hold a grazing permit. The grazing permittee has a preference right to receive the permit if grazing is to continue. The land use plan allows grazing to continue. This EA would be a site specific look to determine if grazing should continue as provided for in the land use plan and to identify the conditions under which it can be renewed. The action is needed to respond to an application for grazing preference.

1.4.1 Decision to be Made

BLM is to decide whether to issue the permit with the same terms and conditions, new terms and conditions, or to withhold issuance of the permit.

1.5 RESOURCE OBJECTIVES

The principle objective of this AMP is to reduce the abundance of noxious or invasive annual grass and forbs, primarly cheatgrass, (*Bromus tectorum*), that is degrading habitat quality for sage grouse and other wildlife. Complementary to this objective is the increase in both quantity and vigor of native vegetation. All while sustaining public land grazing practices under Resource Management Plan (RMP) multiple use management.

The focus of this objective is the Alkali Springs Allotment #04530 which failed to meet land health standards due to habitat degradation, although, vegetation in the Dry Gulch Allotment #04517 would be afforded the same benefit as part of the deferred rotational grazing system. Achievement of this objective would be measured by transect monitoring of both density and cover of cheatgrass and native herbaceous vegetation. Transects and baseline data would be established in 2013. Over the ten year term of this permit monitoring would be conducted annually and at the end of this ten year term the objective would be considered met if on average over all transects cheatgrass is reduced by over 15 % in both cover and density and there is a statistically significant increase in native herbaceous vegetation.

This objective would be facilitated by constructing a wildlife friendly fence that splits the Alkali Springs Allotment into two nearly equal north (approximately 9,005 acres) and south (approximately 8,327 acres) pastures. These two pastures along with the Dry Gulch Allotment would be put into a three year deferred rotational grazing system in which cheatgrass would be the targeted livestock forage during the early season (04/15 to 05/30). Targeting cheatgrass in the early season that disrupts seed production and removing livestock prior to native grass seed production has been proven effective in many research studies. One common factor in most studies is that flexibility is mandatory in targeting a noxious species in assuring the plants are defoliated during the optimal stages of growth. "This investigation was aimed at determining if targeted cattle grazing and prescribed burning, alone and in combination, could reduce downy brome reproductive potential, and thus its dominance in a degraded sagebrush–grassland community. In this study, we found that intensive cattle grazing in May, when downy brome was in the boot stage (just before inflorescence emergence from the culm), reduced seed input into the seed bank". (*Effects of Targeted Grazing and Prescribed Burning on Community and Seed Dynamics of a Downy Brome (Bromus tectorum)– Dominated Landscape. Joel M. Diamond, Christopher A. Call, and Nora Devoe. Invasive Plant Science and Management 2012 5:259–269*).

In addition to the methods in this AMP other applications (herbicide, prescribed fire, seeding, etc.) to reduce noxious annual grasses and enhance native vegetation would be conducted as feasible. Future treatments would be determined by and based on the forthcoming Sage Grouse Environmental Impact Statement which would be the guiding document for future vegetation treatments/habitat manipulation on BLM lands in NW Colorado.

The pasture division fence in the Alkali Springs Allotment would be the only AMP driven range improvement project analyzed in this EA as it is mandatory to implement the deferred rotational grazing system. Additional water developments within pastures are mandatory as well for this implementation but would be analyzed in project specific EA's on a project by project basis. Until water developments for season long livestock pasture distribution are successfully developed water hauling points would be permitted as analyzed in this EA.

1.6 PLAN CONFORMANCE REVIEW

The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: Little Snake Record of Decision and Resource Management Plan (RMP)

Date Approved: October 2011

Decision Language: The Proposed Action and all alternatives are consistent with the Little Snake Record of Decision and Resource Management Plan, Livestock Grazing Management goals to manage resources, vegetation, and watersheds to sustain a variety of uses, including livestock grazing, and to maintain the long-term health of the rangelands; provide for efficient management of livestock grazing allotments; and contribute to the stability and sustainability of the livestock industry.

Section/Page: 2.14 Livestock Grazing/RMP-41

1.7 PUBLIC PARTICIPATION

1.7.1 Scoping: NEPA regulations (40 CFR §1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis.

External Scoping Summary: The action in this EA is included in the NEPA log posted on the LSFO web site: http://www.blm.gov/co/st/en/BLM_Information/nepa/lsfo.html.

The Little Snake Field Office sent out a Notice of Public Scoping to all interested parties on December 22, 2006 to determine the level of public interest, concern, and resource conditions on the grazing authorizations that were due for renewal in fiscal year 2008. A Notice of Public Scoping was posted on the Internet, at the Colorado BLM Home Page, asking for public input on grazing permit and lease renewals. Individual letters were sent to the affected permittee/lessee informing them that their permit and/or lease was due for renewal and requesting any information they wanted included or taken into consideration during the renewal process. The issuance of a grazing permit is being carefully analyzed within the scope of the specific action being taken, resources issues or concerns, and public input received. No comments were received.

Persons/Agencies Consulted: Russell Moon.

Internal Scoping Summary: The Proposed Action and Alternatives were introduced to the Little Snake NEPA interdisciplinary team on November 26, 2012. Staff members representing all disciplines that are analyzed in this document were present.

Issues Identified: No issues were identified during scoping.

CHAPTER 2 - PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

The purpose of this chapter is to provide information on the Proposed Action and Alternatives. Alternatives considered but not analyzed in detail are also discussed.

2.2 ALTERNATIVES ANALYZED IN DETAIL

2.2.1 Adaptive Management and Flexibility

The grazing system outlined in the Proposed Action is based on two basic principles: One, that each pasture would have early season grazing one in every three years targeting cheatgrass. Two, under normal circumstances no pasture would be grazed in the same season more than once within the three year rotation. The system is designed to "bank" the annual unused AUMs in the Alkali Springs Allotment to allow for flexibility especially for the on and off dates but including pasture moves. For example: a long winter and late spring would delay turnout beyond 04/15 and cheatgrass may not be in a palatable state or not be in a growth state that grazing would have the desired effect. Thus, a later turn out would warrant grazing the early pasture sometime into June when cheatgrass would still be the target species but perennials would be more vulnerable to early season defoliation. Or, a mild winter and early spring may not provide the cheatgrass production that could sustain 30 or more days grazing in the early season and or if the native perennials got ahead of the cheatgrass in growth they may be grazed to undesirable levels during the early season. This would warrant a very short time in the early pasture and longer in the summer and fall pastures. These are just an example of real scenarios could vary from year to year requiring flexibility.

The banked AUMs would not be cumulative and would not be used to authorize excessive livestock numbers after a period of years.

The only dates that would remain mandatory would be the on date (04/15) and off date (11/15) grazing would not be allowed outside of this range. The permittee and the BLM would meet every year to determine the Annual Operating Plan (AOP) that is feasible for the permittee while maintaining progress in meeting ecological objectives. Pasture move dates are designed to be guidelines and pasture moves would be based on seasons, plant growth & phenology, climatic conditions, and utilization levels. Pasture moves may be initiated by either the BLM or permittee but must be coordinated between both parties. This flexibility includes a herd size between 300 and 350 cow/calf pairs or the equivalent. Upon BLM approval up to 25% of AUMs would be allowed for sheep use and cattle numbers or time on allotments would be adjusted. The banked or unused AUMs would not be allowed for sheep use along with maximum cattle

numbers. As outlined in the grazing schedule the operator may opt to go into the first pasture used during the final rotation in the fall, this is designed to be with full livestock numbers but animals could be split and finish the rotation in the third and fourth pastures if forage conditions allow.

In this plan it is recognized that in any given year the established AUM preference may be exceeded, the Dry Gulch Allotment would be most susceptible to this. This is accepted under the adaptive management principle as long as it does not occur on a repetitive basis, resource conditions are not degrading and resources elsewhere are benefiting.

Administrative Actions: For the Alkali Springs Allotment the percent public lands were recalculated and corrected from eighty seven percent as previously authorized to seventy eight percent and would remain at seventy eight percent in any alternative that continues livestock grazing.

2.2.2 Proposed Action
Issuance of a grazing permit to Russell Moon for ten years, expiring February 28, 2023, and implementation of an Allotment Management Plan (AMP) for the Dry Gulch #04517 and Alkali Springs #04530 Allotments. The permit would be renewed as follows:

From:

Allotment	Livestock	Dates		
Name & Number	Number & Kind	Begin End	%PL	AUMs
04517 Dry Gulch	44 Cattle	05/01 to 11/11	100	282
	30 Cattle	04/15 to 10/31	100	197
	(3 AUMs not scheduled)		Total	482
04530 Alkali Springs	318 Cattle	05/01 to 11/15	87	1810
	(2 AUMs not scheduled)		Total	1812

The permit is subject to the following Special Terms and Conditions:

1. 200 AUMs of cattle use may be used on Dry Gulch as shown:
164 sheep from 04/01 to 05/15 for 49 AUMs and 25 cattle from 05/01 to 10/31 for 151 AUMs. If all cattle use, 3 AUMs would not be scheduled to avoid exceeding the 482 AUM preference for this allotment.

2. To minimize impacts to sage grouse during breeding season in the Alkali Springs Allotment, avoid concentrating or herding livestock on public lands within one mile of Big Hole Gulch until after May 30.

3. Report noxious weeds found on BLM land to the range staff at 970-826-5000.

4. Proper grazing use is required on this allotment. The utilization objectives at the end of the grazing season are 50% on key grass species and 40% on key browse species. On slopes over 20% utilization objectives decrease 10% for each 10% increase in slope.

5. Riparian resources within the allotment require functioning capability assessment during the term of this permit. If problem attributes are identified and determined to be caused by livestock grazing practices, them corrective actions would be implemented. In the event it is determined grazing practices are causing problems in riparian areas, then other adjustments to the grazing permit would be necessary. Exclosures to protect the soils and lentic riparian potential around both flowing well, Flat Spring and Evans Spring within the Alkali Springs Allotment may be necessary within the early term of the permit.

6. To maintain sage grouse nesting habitat in the southerly half of the Alkali Springs Allotment, livestock would be managed to promote a vegetative condition desired for nesting sage grouse. Maintain 10-15% residual grass cover at least 6 inches high in the spring, maintain sagebrush cover with a canopy layer between 15 and 35%, and manage for vigorous stands with a variety of age classes.

The permit is also subject to the Standard and Common Terms and Conditions shown as Attachment 2.

To:

Allotment	Livestock	Dates		
Name & Number	Number & Kind	Begin End	%PL	AUMs
04517 Dry Gulch	68 Cattle	04/15 to 11/15	100	481
			Not Scheduled	1
			Total	482
04530 Alkali Springs	328 Cattle	04/15 to 11/15	78	1808
			Not Scheduled	4
			Total	1812

The above mandatory Terms and Conditions only represent the maximum date range and authorized AUMs for both allotments and shown on permit. Tables below shown in permit "Other Terms and Conditions" represent the deferred rotational grazing system implemented as part of the AMP, see sections 1.5 and 2.2.1.

Other Terms and Conditions:

Year 1 (starting in 2013)

Allotment	Livestock	Dates		
Name & Pasture	Number & Kind	Begin End	%PL	AUMs
Dry Gulch	300 Cattle	04/15 to 05/15	100	306
Alkali Springs North	350 Cattle	05/15 to 08/01	78	709
Alkali Springs South	350 Cattle	08/01 to 10/31	78	826
Dry Gulch	300 Cattle	10/31 to 11/15	100	158
			Total	1999

AUMs Not Scheduled for Alkali Springs – 277
AUMs Not Scheduled for Dry Gulch – 18

Year 2 (2014)

Allotment Name & Pasture	Livestock Number & Kind	Dates Begin End	%PL	AUMs
Alkali Springs North	350 Cattle	04/15 to 06/01	78	431
Alkali Springs South	350 Cattle	06/01 to 08/01	78	556
Dry Gulch	300 Cattle	08/01 to 09/17	100	473
Alkali Springs North	350 Cattle	09/17 to 11/15	78	539
				Total 1999

AUMs Not Scheduled for Alkali Springs – 286
AUMs Not Scheduled for Dry Gulch – 9

Year 3 (2015)

Allotment Name & Pasture	Livestock Number & Kind	Dates Begin End	%PL	AUMs
Alkali Springs South	350 Cattle	04/15 to 06/01	78	431
Dry Gulch	300 Cattle	06/01 to 07/16	100	454
Alkali Springs North	350 Cattle	07/16 to 10/15	78	826
Alkali Springs South	350 Cattle	10/15 to 11/15	78	287
				Total 1998

AUMs Not Scheduled for Alkali Springs – 268
AUMs Not Scheduled for Dry Gulch – 28

Upon BLM approval up to 25% of AUMs would be allowed for sheep use and cattle numbers or time on allotments would be adjusted. The Not Scheduled AUMs would not be allowed for sheep use along with maximum cattle numbers.

Range Improvements:

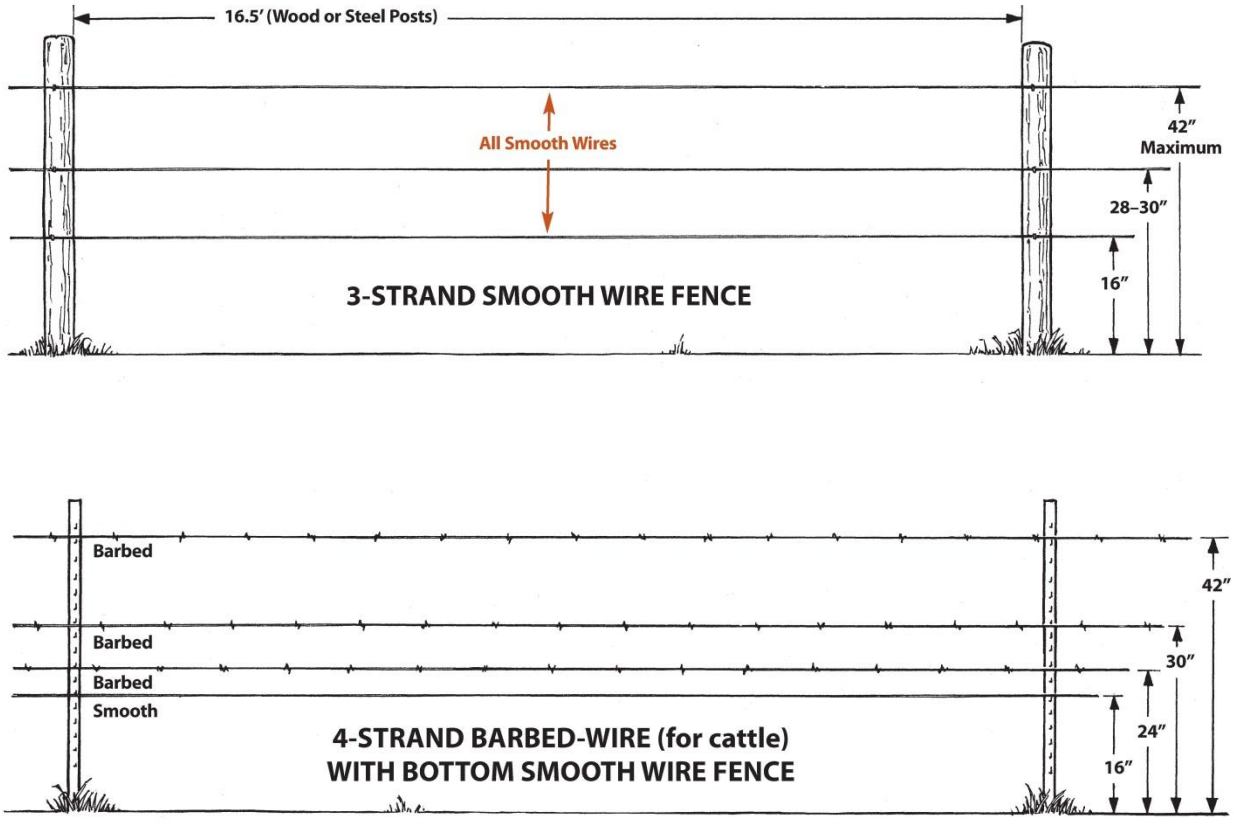
Until permanent water developments are successfully completed water hauling would be permitted to the following locations (see Allotment Maps 1b).

T12N R94W Sec 23 SE1/4 NW1/4 intersection of oil and gas road and county road (CR) 91.
T12N R94W Sec 24 NE1/4 SW1/4 off CR 88.
T12N R93W Sec 31 SW1/4 SW1/4 off CR 88.
T12N R93W Sec 18 SW1/4 SE1/4 intersection of CR 86 & two track road.
T11N R94W Sec 2 E1/2 of NE1/4 along CR 91 on private land.

Tank placement and water hauling would also be permitted to any location of pervious disturbance, i.e. existing reservoir, or other functional or non-functional water developments, as long as footprint of disturbance is not increased. Cultural clearances would be necessary for all locations.

A wildlife friendly fence of either a three or four wire high tensile or standard design would be constructed as a pasture division fence on the Alkali Springs Allotment in the following location: T11N R94W sections 1 & 2, the fence would run east to west and basically split these sections

north and south crossing CR 91. Fence lines would be cleared of woody vegetation no more than five feet on each side as needed for construction and maintenance. Fence construction would not be authorized during lekking or nesting season (March 1 – June 30). The new fence must be visible to grouse and other wildlife by using wooden stays and permanent fence markers. (see Allotment Maps 1b).



2.2.3 No Action Alternative

Renew the permit with the existing mandatory and special terms and conditions. The Standard and Common Terms and Conditions would continue to apply.

2.2.4 No Grazing Alternative

The permit would not be renewed and the public parcels within the allotment would be removed from grazing use.

2.3 ALTERNATIVES CONSIDERED BUT NOT ANAYLYZED IN DETAIL

A Reduced Grazing Alternative was considered but not analyzed in detail because the causal factors that led to the Alkali Springs Allotment not to be meeting standards due to excessive annual noxious weeds was not attributed to current livestock authorization and management.

In addition the BLM is taking action to mitigate this Standard Not Being Met condition with a grazing system designed to reduce annual grasses and provide rest from grazing pressure for

native vegetation. The proposed grazing system would not utilize all allocated AUMs annually; these actions are in cooperation with the applicant and are reflected in the Proposed Action.

CHAPTER 3 – AFFECTED ENVIRONMENT AND EFFECTS

3.1 INTRODUCTION

Affected Resources:
The CEQ Regulations state that NEPA documents "must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1(b)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an environmental assessment (EA). Issues would be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of the impacts. Table 1 lists the resources considered and the determination as to whether they require additional analysis.

Table1. Resources and Determination of Need for Further Analysis

Determination[1]	Resource	Resource Issue/Rationale for Determination
Physical Resources		
NI	Air Quality	Activities associated with grazing that may affect air quality, namely dust and exhaust from ranch operation vehicles as well as dust from livestock hoof action, fall below EPA emission standards for the six criteria pollutants of concern (sulfur dioxide, nitrogen oxide, ground-level ozone, carbon monoxide, particulate matter [both PM2.5 and PM10], and lead). Furthermore, ranch operation and livestock activities are not a significant source of these pollutant emissions that do occur in Moffat County. Impacts to air quality caused by either alternative are therefore considered negligible.
NI	Floodplains	There are FEMA-identified 100-year floodplains within both allotments that are subject to rare and/or occasional flooding. None of the alternatives analyzed include development within identified floodplains. No threat to human safety, life, welfare and property would result from implementing any of the alternatives.
NI	Hydrology, Ground	There would be no significant impact to Ground Hydrology within the boundary of the Proposed Action.
PI	Hydrology, Surface	See Water Quality, Surface
NI	Minerals, Fluid	There is oil & gas activity to the south of the proposed area. The Proposed Action would cause no significant impacts to Fluid Minerals.
NI	Minerals, Solid	There are no solid mineral sites within the boundary of the Proposed Action.
PI	Soils	See Section 3
NI	Water Quality, Ground	There would be no significant impact to Ground Water Quality within the boundary of the Proposed Action.
PI	Water Quality, Surface	See Section 3

Determination[1]	Resource	Resource Issue/Rationale for Determination
Biological Resources		
PI	Invasive, Non-native Species	See Section 3
PI	Migratory Birds	See Section 3
PI	Special Status Animal Species	See Section 3
NP	Special Status Plant Species	There are no federally listed threatened or endangered or BLM sensitive species present on these allotments.
PI	Upland Vegetation	See Section 3
PI	Wetlands and Riparian Zones	See Section 3
NP	Wildlife, Aquatic	The allotments do not provide habitat for aquatic wildlife.
PI	Wildlife, Terrestrial	See Section 3
NP	Wild Horses	There are no Herd Management Areas within close proximity that would be impacted by any of the alternatives.
Heritage Resources and the Human Environment		
PI	Cultural Resources	See Section 3
NP	Environmental Justice	According to the most recent Census Bureau statistics (2000), there are no minority or low income populations within the LSFO.
NP	Hazardous or Solid Wastes	There are no known Hazardous or Solid Waste issues within the allotments under the Proposed Action.
NI	Lands with Wilderness Characteristics	The proposed project area falls within two areas greater than 5000 acres that have the potential for suitability as lands with wilderness characteristics. However, the project area has historically been used for grazing and therefore the Proposed Action would not affect lands with wilderness characteristics.
PI	Native American Religious Concerns	See Section 3
NI	Paleontological Resources	The Wasatch formation (PFYC 5) has been identified as the surface geology in Section 1, T11N, R94W. The risk of damaging fossils during the fence construction is low.
NI	Social and Economic Conditions	There would not be any substantial changes to local social or economic conditions.
NI	Visual Resources	The proposed project area is located in a VRM Class III area where moderate change to the characteristic landscape would be allowed as long as the existing characteristics of the landscape are partially retained. The Scenic Quality Rating is C and the Sensitivity Level Rating is Low. No impacts to visual resources would be anticipated.
Resource Uses		
NI	Access and Transportation	There would be no significant impact to access and transportation in the project area.
NI	Fire Management	The nature of the Proposed Action would have no impact to fire management.
NP	Forest Management	There are no forest resources that would be impacted by any of the alternatives.

Determination[1]	Resource	Resource Issue/Rationale for Determination
NI	Livestock Operations	Livestock operations would continue in a more beneficial and sustainable manner with approval of the Proposed Action.
NI	Prime and Unique Farmlands	There are federal lands designated as prime farmland if irrigated and farmland of statewide importance within both allotments. Generally, farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. None of these soils are or would become irrigated or otherwise manipulated so as to create conditions favorable to create prime farmland on public lands within the allotment.
NI	Realty Authorizations, Land Tenure	There would be no significant impact to realty authorizations in the project area.
NI	Recreation	There would be no significant impact to recreation in the project area.
Special Designations		
NP	Areas of Critical Environmental Concern	The proposed project is not located near the Irish Canyon ACEC and, therefore would have no impact.
NP	Wild and Scenic Rivers	There are no WSRs near the proposed project area.
NP	Wilderness Study Areas	There are no WSAs near the proposed project area.

[1] NP = Not present in the area impacted by the Proposed Action or Alternatives. NI = Present, but not affected to a degree that detailed analysis is required. PI = Present with potential for impact analyzed in detail in the EA.

3.2 PHYSICAL RESOURCES

3.2.1 Soils

Affected Environment: Table 1 describes the five major soil groups included within the Dry Gulch and Alkali Springs Allotments. Soils within the allotment are predominantly loam and sand based and are suitable for grazing, forestland, and/or wildlife habitat. The main hazard for soils in this area is erosion unless close-growing plant cover is maintained. Biological soil crusts are present where appropriate, but fragmented.

Table 1. Soil Summary for the Dry Gulch and Alkali Springs Allotments

Soil Map Unit (MU) & Soil Name (Acres in Allot.)	Map Unit Setting	Description
MU 199 Torriorthents-Torripsamments complex, 12 to 40% slopes *3,916 acres*	*Elevation:* 6,000 – 7,200 feet *Mean annual precipitation:* 9-13” *Ecological Site: none given*	These hillslope soils are well to excessively drained with moderately slow to rapid permeability and high runoff potential. Available water capacity is very low and the soil profile is typically 19-30 inches deep, comprised mostly of clay and loamy sand.
MU 130 Maysprings coarse sandy loam, 3 to 12 % slopes	*Elevation:* 6,200 to 7,300 feet *Mean annual precipitation:* 11 to 13”	These toeslope soils are well drained with moderate permeability and medium runoff potential. Available water capacity is low and the soil

2,154 acres	*Ecological Site:* Rolling Loam	profile is typically 18 to 60 inches deep, composed of course sandy loam, sandy clay loam, and course sand.
MU 168 Ruedloff sandy loam, 1 to 8% slopes *1,725 acres*	Elevation: 6,000 to 6,300 feet Mean annual precipitation: 9 to 11" Ecological Site: Sandy	These toeslope soils are somewhat excessively drained with moderately rapid permeability and low runoff potential. Available water capacity is low and the soil profile is typically up to 60 inches deep, comprised of sandy loam and loamy course sand.
MU 178 Simanni-Ruedloff complex, 1 to 10% slopes *2,069 acres*	*Elevation:* 6,000 – 6,500 feet *Mean annual precipitation:* 9-11" *Ecological Site:* Sandy	These toeslope soils are well to somewhat excessively drained with moderate to moderately rapid permeability & low to medium runoff potential. Available water capacity is low & the soil profile is typically up to 60 inches deep, comprised mostly of course sandy loam.
MU 162 Rock River sandy loam, 3 to 12% slopes *1,360 acres*	Elevation: 6,200 to 7,200 feet Mean annual precipitation: 11 to 13" Ecological Site: Rolling Loam	These alluvial fan and hillslope soils are well drained with moderate permeability and medium runoff potential. Available water capacity is moderate and the soil profile is typically up to 60 inches deep, composed mostly of sandy loam and sandy clay loams.

Data taken from *Soil Survey of Moffat County Area, Colorado (2004)*

The Alkali Springs and Dry Gulch allotments were last assessed in 2003 as part of the Powderwash Landscape Assessment. All soil health indicators were met at the one site in Dry Gulch. Surface soil characteristics are relatively stable, with little to no surface movement. High native vegetation density and production was noted to help protect from accelerated erosion. Three site visits were made in the Alkali Springs allotment. While soil health indicators were met at all sites, two of the sites failed because of high invasive species (annual) vegetation cover (cheatgrass). Over all, soils were found to be stable, showing no to slight evidence of erosion. Biological soil crusts are present where appropriate and fragmented. Despite the high cover of annual weeds, it appeared that the vegetation present was able to provide adequate protection from wind or water erosion.

Environmental Consequences, Proposed Action: Range improvements, a change in grazing management, and implementation of an adaptive management plan proposed under this alternative is likely to not only maintain, but improve overall soil health and stability. Implementing a three-year deferred rotational system that targets the control of invasive annuals and relieves allotments from continuous growing season use would encourage native perennial herbaceous growth and establishment that would, in turn, improve soil stability by protecting the soil surface from wind and water erosion and producing litter to facilitate water permeability and aid in soil moisture retention.

Proposed temporary water haul sites in the Alkali Springs allotment are located adjacent to county roads and would likely result in some soil disturbance associated with livestock congregation around the tanks, but would not add significantly to existing road-related surface disturbance that is already present. Permanent water developments are needed in this allotment

and may result in additional surface disturbance. Impacts to soils from these developments would be reviewed as the projects are identified and proposed at a later date. The proposed fenceline that would split the Alkali Springs allotment into north and south pastures would result in negligible surface disturbance. The creation of two pastures would enable a rotational grazing system that is expected to improve overall range distribution and vegetation use that would in turn benefit soils over the long term.

Environmental Consequences, No Action: Soils within the allotments are loam and sand based, which generally are least susceptible to disturbance and wind/water erosion when wet or moist (late fall/early spring). While soil standards are currently being met, current grazing management permits livestock use for the entire growing season (spring through late fall) on both allotments. This strategy has likely led to a decrease (or has prevented an improvement) in the health and vigor of native, perennial vegetation that is important for maintaining soil health and stability. A continuation of this alternative for another ten years is likely to lead to further decline of native vegetation that may indirectly result in the decline of soils to a point at which land health standards may not be met.

Environmental Consequences, No Grazing Alternative: Removal of livestock from public lands would decrease hoof compaction of soil surfaces. Over time the lack of compaction, combined with the annual freeze-thaw cycle, would lead to a decrease in soil bulk density and improved soil moisture conditions, which facilitates vegetation germination and root development. Removing livestock would also result in an increase of both plant litter and live vegetative ground cover that would provide more protection from wind and water erosion. Any existing livestock trails and the resulting erosion would heal over time.

If grazing were to continue on adjacent private or other non-federal lands in the allotment, additional fences may have to be built by the landowner to prevent trespass onto federally-managed lands. Given the natural tendency of cattle to congregate and trail along fence lines, it is likely that paths and forage depletion would occur to some localized degree along the fences within the allotments. The resulting decrease in vegetation would fail to decrease the impact of raindrops on the soil surface, while the expected increase in compaction would increase runoff from both rain and snowmelt. These factors would combine to increase the likelihood of both wind and water erosion in the areas adjacent to fences. This would result in blowouts and gullies which could indirectly impact federal lands through deposition or by the eroded area actually spreading onto public lands.

Environmental Consequences, Cumulative Impacts: Past, present, and reasonably foreseeable actions that affect soils in the Powderwash area include ranching, mineral exploration and development, and the infrastructural development necessary to support these two activities. The majority of livestock grazing impacts to soils occur around existing water sources such as springs, troughs, stock ponds, areas providing cover or shade, and along fence lines and drainage bottoms where livestock tend to trail. The soils within and closely surrounding these areas receive heightened use and may exhibit signs of soil compaction, erosion, and reduced productivity.

Oil and gas activities do occur in the area in a limited amount. Development of subsurface minerals includes the removal of top soil and exposure of subsurface soils. These areas of

decreased vegetation and litter cover are generally more susceptible to soil erosion, increased runoff, and infestation by invasive, non-native plant species. Some restoration work has occurred at the pad sites to limit the amount of soil erosion, but bare soil still remains in places. Development on federal lands always includes mitigation measures to reduce or eliminate these impacts; however development on private land may not be as closely monitored or mitigated.

The primary impact to soils from infrastructural development has been disturbance, spread of invasive species, runoff and off-site sedimentation associated with road construction and use. The nature and extent of the impact varies with the type of road, the extent of use, and the level of maintenance. For example, primitive roads, ATV trails and powerline service roads are naturally surfaced and rarely used or maintained, making them susceptible to potentially severe gullying and rilling, especially on grades. Naturally surfaced, gravel-surfaced, bladed, and a few paved roads also occur in the area. Although the extent of use and level of maintenance varies, these roads typically are used more often and receive a higher level of maintenance than primitive roads and trails. Most of these roads have engineered designs and appropriately spaced culverts to drain runoff.

3.2.2 Water Quality, Surface/Hydrology, Surface

Affected Environment: There are no perennial surface waters present in either Dry Gulch or Alkali Springs allotments. Surface runoff from the Dry Gulch allotment would flow primarily into Dry Gulch or Thornburgh Gulch. Runoff from the Alkali Springs allotment would flow into Dry Gulch, Scandinavia Gulch, and Bighole Gulch. All are ephemeral tributaries to the Little Snake River. Water quality for all tributaries of the Little Snake River below its confluence with Fourmile Creek is use protected and must support Aquatic Life Warm 2, Recreation N, and Agricultural uses. There are no water quality impairments or suspected water quality issues for waters influenced by any of the allotments considered in the Proposed Action.

Environmental Consequence, Proposed Action: General impacts to water quality from grazing are the same as described above. However, the implementation of the Proposed Action may improve water quality as a result of locating temporary water developments near already disturbed areas away from ephemeral drainages. The creation of pastures that enables a rotational grazing system would improve livestock distribution across the allotments, thereby limiting fecal matter and soil compaction/erosion near surface water (when present), which would improve ephemeral riparian areas and ultimately water quality.

Environmental Consequence, No Action: Although no perennial surface water exists within the allotments (that isn't developed specifically for livestock), livestock use and concentration of ephemeral drainages can impact downstream water quality by removing vegetation that slows and filters sediments from surface runoff and by depositing waste containing nutrients (nitrogen, phosphorous) and bacteria (E. coli) that can be entrained or dissolved in surface runoff that may reach perennial waters downstream. Grazing activities could result in soil compaction and displacement that increase the likelihood of erosional processes, especially on steep slopes and areas devoid of vegetation. Soil detachment and sediment transport are likely to occur during runoff events associated with spring snowmelt and short-duration high intensity thunderstorms. Given the lack of perennial lotic resources in the allotments and decent vegetative cover in

ephemeral drainages, the potential for measureable water quality degradation in downstream perennial drainages (i.e. Little Snake River) is minimal.

Environmental Consequences, No Grazing Alternative: Potential direct and indirect impacts to water quality caused by livestock use, such as trampling, trailing, overgrazing of riparian vegetation that may lead to increased sedimentation, would be eliminated. This alternative has the potential to benefit overall surface water quality both within and downstream of the allotment.

Environmental Consequences, Cumulative Impacts: Past, present, and reasonably foreseeable actions that affect surface water quality in the Powderwash area primarily include ranching, mineral exploration and development, and the infrastructural development necessary to support these two activities.

Powderwash drains surface water via several (mostly ephemeral) tributaries to the Little Snake River. Pollutants that are delivered downstream typically include nitrogen, pathogens, and sediment, however no perennial stream segment that drains this area is presently listed as impaired by the State of Colorado, nor is it on the State's Monitoring and Evaluation list for any suspected water quality problems. Grazing occurs at some level in nearly every portion of the watershed. Sediment is delivered to the Little Snake River from its numerous tributaries during storm events or by snow melt driven high-flow events that occur in the late spring. This sediment flush is a natural occurrence; the amount of sediment occurring above background levels as a result of grazing across the watershed is not known.

The effect to water quality due to fluid mineral and infrastructural development is primarily sedimentation, a result of the construction and maintenance of roads and pads adjacent to riparian areas in the watershed. The portion of sediment that is delivered to the Little Snake River as a direct consequence of these improvements is not known, but could occur during the spring high flow period coincident with the natural sediment discharge peak as well as summer storm events.

Reference: Colorado Department of Public Health and Environment Water Quality Control Commission. 2012. Regulations #33, 37, and 93. http://www.cdphe.state.co.us/regulations/wqccregs/index.html

Kansas State University Research and Extension. 2002. Kansas Grazing Land Water Quality Program: Understanding Grazing Land and Water Quality (pamphlet). www.kdheks.gov/nps/resources/**grazing**/attach2.pdf

3.3 BIOLOGICAL RESOURCES

3.3.1 Invasive/Non-Native Species

Affected Environment: Invasive plant species and noxious weeds occur within the affected area. Cheatgrass, Hoary cress (whitetop), Canada thistle, musk thistle, scotch thistle, leafy spurge, perennial pepperweed, halogeton and knapweeds occur within or near this area. The primary invasive weed concern is the presence of cheatgrass within the Alkali Springs Allotment. Other species of noxious weeds could be introduced by vehicle traffic, livestock, wildlife and other means of dispersal. Principals of Integrated Pest Management (IPM) are employed to control noxious weeds on BLM lands in the Little Snake Field Office.

Environmental Consequences, Proposed Action: Access to public lands for dispersed recreation, hunting, livestock grazing management, livestock and wildlife movement, as well as wind and water, can cause weeds to spread into new areas. While surface disturbance from livestock concentration and human activities associated with grazing operations can increase weed presence it can also be used as a tool. The grazing system included in this alternative utilizes livestock grazing to mitigate the presence of cheatgrass within the Alkali Springs Allotment. While keeping other resource factors in mind, this alternative provides a targeted approach to providing a control method for this invasive species.

Environmental Consequences, No Action Alternative: Access to public lands for dispersed recreation, hunting, livestock grazing management, livestock and wildlife movement, as well as wind and water, can cause weeds to spread into new areas. Surface disturbance from livestock concentration and human activities associated with grazing operations can increase weed presence. In addition to the cheatgrass presence, a concern within the allotments would be for biennial and perennial noxious weed infestations to establish and not be detected. Once an infestation is detected it could be controlled with various IPM techniques. Land practices and land uses by the livestock operator and their weed control efforts and awareness would largely determine the identification of potential weed infestations within the allotment. Additionally, this alternative provides some uncontrolled grazing pressure on cheatgrass.

Environmental Consequences, No Grazing Alternative: This alternative removes the spread and introduction of weeds by livestock. Additional sources of seed dispersal would still be present throughout the allotments. However, under this alternative there would be no presence by the grazing permittee to assist with detection of infestations. Additionally, this alternative provides no additional grazing pressure targeted to mitigate cheatgrass invasion.

Environmental Consequences, Cumulative Impacts: Under the Proposed Action and No Action Alternatives weed infestation and dispersal through livestock transport may increase on a potential of 15,191 acres of BLM land. This increase would be an acceptable level as managed under the grazing permit. Additionally, cheatgrass levels could decline and move towards meeting standards. Under the No Grazing Alternative there would be no additional increase in weed infestations directly resulting from authorized livestock grazing.

3.3.2 Migratory Birds

Affected Environment: Plant communities within the two allotments are comprised primarily of sagebrush/bitterbrush stands with an understory of grasses and forbs. Pinyon-juniper woodlands are also scattered through the allotments, primarily on slopes and bluffs and in draws. A variety of migratory birds may utilize these habitats during the nesting period (May through July) or during spring and fall migrations. The general area contains potential nesting and/or foraging habitat for the following USFWS 2008 Birds of Conservation Concern in the Northern Rockies Region: Bald eagle, Brewer's sparrow, sage sparrow, sage thrasher and loggerhead shrike. Bald eagles and Brewer's sparrows are also BLM sensitive species and would be discussed in more detail in the Special Status Animal Species Section of this EA. Limited woodlands may provide habitat for pinyon-juniper obligate species, such as pinyon jay and juniper titmouse. There is

one known golden eagle nest located within the Alkali Springs allotment and golden eagles and other raptors likely forage in the area.

Environmental Consequences, Proposed Action: While livestock grazing can directly impact reproductive success of migratory songbirds by trampling of nests, it is more likely that it indirectly influences reproductive success due to changes in vegetation such as species composition, height or cover. The Proposed Action would allow grazing within the allotments from 4/15 to 11/15. Growing season rest would be achieved by rotating pasture use and timing from year to year. In an effort to reduce cheatgrass, one pasture would receive early spring use each year. Cheatgrass can out compete native grasses and forbs and alter fire regimes, both of which reduce habitat quality for migratory bird species. The Proposed Action should provide an overall benefit to vegetation throughout the allotments when compared to the current grazing system. The Proposed Action would also allow for improved vigor and an increase in native grasses and forms, and a reduction in non-native grasses. Overall, it is expected that the proposed grazing regime is compatible with maintaining local migratory bird populations.

The proposed fence and water tanks would have minimal impacts to migratory birds. Nesting attempts may be disrupted and some nests may be accidentally destroyed if the fence is constructed during the breeding season (May – July). As this would only impact a small area of habitat, potential for impacts would remain low.

Environmental Consequences, No Action Alternative: Under this alternative, season long grazing would be allowed to continue on both allotments. This alternative may lead to an increase in cheatgrass infestations on the allotments, in turn reducing habitat quality for migratory bird species. In addition, cheatgrass can change fire regimes, increasing fire frequency where infestations occur. Increased fire occurrence, coupled with weed infestations would have negative impacts to migratory bird habitat.

Environmental Consequences, No Grazing Alternative: This alternative may lead to increases/improvements in vertical structure, composition and density of herbaceous understory on both allotments as a whole from current conditions. Benefits associated with livestock removal would be most expected in those areas that currently experience concentrated livestock use (such as water sources). Response by migratory birds to vegetative changes would depend on the species, likely providing the greatest benefit to ground and low shrub nesters. However, this alternative would not address the cheatgrass infestations in the Alkali Springs Allotment.

Environmental Consequences, Cumulative Impacts: The primary use of the allotments and the surrounding area is livestock grazing, recreation (hunting) and some oil and gas development. Continuation of grazing would not be expected to add substantially to existing or proposed disturbances. The Proposed Action would likely improve existing habitat conditions by implementing a deferred grazing system and potentially reduce cheatgrass on the allotments.

3.3.3 Special Status Animal Species

Affected Environment: There are no ESA listed or proposed species that inhabit or derive important benefit from habitats in the general area.

The allotment provides important habitat for greater sage-grouse, a BLM sensitive species and a candidate for ESA listing. In 2012 Colorado Parks and Wildlife updated greater sage-grouse mapping data to include Preliminary Priority Habitat (PPH) and Preliminary General Habitat (PGH). Areas that have been identified as having the highest conservation value to maintaining sustainable greater sage-grouse populations were mapped as PPH. Sage-grouse occupied habitats outside of PPH were mapped as PGH. The entire Dry Gulch allotment is mapped as PPH. The entire Alkali Springs allotment is mapped as PPH, except for ~375 acres, which are mapped as PGH. In addition, both allotments provide nesting, early brood rearing and winter habitat for greater sage-grouse.

There are two active leks located within the boundary of the Alkali Springs Allotment and several additional active leks located within four miles of the allotment. Although there are no leks within the boundary of the Dry Gulch Allotment, there are several leks located within four miles of this allotment. Due to the proximity of active leks, the entirety of both allotments is mapped as nesting habitat for this species. Reproductive functions (breeding, nesting and brood-rearing) are considered the most important grazing-related aspect of sage-grouse biology. Lekking would likely take place in the general area from mid-March through early May with most nesting occurring mid-April through mid-June. In general, broods would appear from late May to early June.

The allotments also provide habitat for two additional BLM sensitive species, bald eagles and Brewer's sparrow. There are several bald eagle nests located along the Little Snake River, to the east and west of the Alkali Springs Allotment and to the north of the Dry Gulch Allotment. Both allotments also provide winter habitat for this species. Brewer's sparrows are a summer resident in Colorado and nest in sagebrush stands. Nests are constructed in sagebrush and other shrubs in denser patches of shrubs. This species would likely be nesting in the Proposed Action area from mid-May through mid-July.

Environmental Consequences, Proposed Action:

Greater sage-grouse
Season of livestock use coincides with sage-grouse nesting and breeding on both the allotments. Grazing during the nesting season has some potential to result in trampling of nests or disturbance of nesting females. Livestock grazing can also influence grouse indirectly by altering habitat components, primarily herbaceous cover. Both residual and new growth herbaceous cover are important for sage-grouse nest concealment.

The Proposed Action could produce positive benefits to sagebrush habitats compared to the No Action Alternative. Livestock would be rotated through the allotments, allowing for growing season rest and adequate plant recovery periods. In regards to herbaceous understory, new growth would be subject to grazing pressure in the pasture that receives early season use. However, this early season would primarily target cheatgrass, as native species would likely begin green up towards the latter end of this grazing period or after livestock has been moved to the next pasture. Residual cover may receive some grazing pressure, but since cheatgrass would be more palatable at this time, removal of residual cover would be expected to be minimal. If this same pasture is utilized again during the fall, residual cover for the subsequent nesting season would be impacted.

When the Alkali North and Dry Gulch Pastures are used second, grazing would only overlap with sage-grouse nesting for about two weeks. New growth and residual grass cover would not be impacted in these two pastures before the nesting season. The Alkali South Pasture would be used two weeks earlier (May 15th) than the other two pastures. When this pasture is used second, it would overlap with sage-grouse nesting for three to four weeks and may result in some reduction of cover for nest concealment.

Both residual grass cover and opportunity for new growth for nest concealment would not be impacted in pastures that are used late in the season, however, there would be some reduction of residual grass cover in these pastures for the subsequent nesting season.

The Proposed Action would reduce scheduled AUMs by about 300. This would reduce utilization on the herbaceous component of sage-grouse habitat and would likely improve cover for nest concealment. Utilization ranged from slight to moderate under the current grazing system. Overall, the proposed grazing regime for the two allotments should be compatible with maintaining healthy habitat for greater sage-grouse. The grazing regimes incorporate rotation and deferment, and promote healthy vegetative communities. The grazing strategy also addresses cheatgrass infestations in the Alkali Springs Allotment which would be beneficial to sage-grouse habitat.

Water developments: The proposed watering tanks would have minimal impacts to grouse species. Additional water sources would likely improve upland and riparian vegetation conditions by evenly distributing grazing throughout the allotments, in turn, improving grouse habitat. Habitat in the immediate vicinity of the ponds would be degraded by livestock congregation, however, this would not affect the productivity of the surrounding habitat.

Fencing: Fences can provide new perch sites for raptor species, some of which prey on grouse. Fences also have the potential to result in mortality of individual grouse from collisions with wires which have low visibility. Fences near leks pose a greater risk to grouse species. The proposed fence is located 1.10 miles from the closest lek. Due to topography in the area, it is unlikely that the fence would pose a high collision risk to grouse. However, the new fence must be marked to increase visibility and prevent/reduce collisions.

Bald Eagle

None of the bald eagle nests are located within the allotments, however, this species likely hunt in upland habitats in the general vicinity of the allotments. During the winter, bald eagles are likely present within the allotments, feeding on road or winter killed big game. Grazing in the two allotments would not impact bald eagle nesting or hunting/scavenging along the Little Snake River as these activities occur outside the allotment boundaries. The Proposed Action should improve vegetative conditions in the allotment, providing suitable habitat for upland prey species. Overall this alternative should be compatible with maintaining healthy habitat for bald eagles and prey species.

Brewer's sparrow

Grazing can directly impact Brewer's sparrows by trampling nests, or indirectly affect this species by changing components of habitat. Grazing may cause an increase in weed infestations,

primarily cheatgrass, which would degrade sparrow habitat. Additionally, the presence of livestock, can increase the abundance of brownheaded cowbirds, increasing the chance for nest parasitism by this species (Holmes and Johnson 2005).

Grazing systems that promote healthy sagebrush communities should be compatible with maintaining Brewer's sparrow habitat. The proposed grazing schedule incorporates rotation and deferment and would help maintain healthy ecosystems. Sagebrush stands in the allotment exist in several seral stages. There are many areas of dense, taller shrubs that would provide potential nesting habitat for this species.

Environmental Consequences, No Action Alternative: Under this alternative, season long grazing would be allowed to continue on both allotments. This alternative may lead to an increase in cheatgrass infestations on the allotments, in turn reducing habitat quality for sage-grouse and other sensitive species. In addition, cheatgrass can change fire regimes, increasing fire frequency where infestations occur. Increased fire occurrence, coupled with weed infestations would have negative impacts to sensitive wildlife species.

Environmental Consequences, No Grazing Alternative: This alternative would lead to increases/improvements in vertical structure, composition and density of herbaceous understory on the allotment as a whole from current conditions. Benefits associated with livestock removal would be most expected in those areas that currently experience concentrated livestock use (such as water sources). Improvements in herbaceous understory (height and density) would enhance nesting conditions for greater sage-grouse throughout the allotment as a whole. However, this alternative would not address the cheatgrass infestation on the Alkali Springs Allotment.

Environmental Consequences, Cumulative Impacts: The primary use of the allotments and the surrounding area is livestock grazing, recreation (hunting) and some oil and gas development. Continuation of grazing would not be expected to add substantially to existing or proposed disturbances. The Proposed Action would likely improve existing habitat conditions by implementing a deferred grazing system and potentially reduce cheatgrass on the allotments.

3.3.4 Upland Vegetation

Affected Environment: The dominant range sites within the allotments are rolling loam and sandy land. These range sites typically support mixed sagebrush-antelope bitterbrush and grass communities. Shrubs within the allotments consist of Wyoming big sagebrush, greasewood, saltbrush, bitterbrush, low rabbitbrush, and green rabbitbrush. Forbs include arrowleaf balsamroot, phlox, buckwheat, wild onion, sego lily, lupine, and yarrow. Perennial grasses consist of Indian ricegrass, western wheatgrass, needle-and-thread, Nevada bluegrass, bluebunch wheatgrass, streambank wheatgrass, and bottlebrush squirreltail. Pinyon juniper vegetation types are found on slopes, draws, and bluffs within both allotments.

Environmental Consequences Proposed Action: While targeting cheatgrass in the early season pasture the proposed grazing system limits use of native uplands during the critical growing season by allowing growing season deferment. This growing season deferment is expected to have the following impacts on the vegetative communities within the allotments: the early spring rest would decrease the grazing pressure on plant species during the most active growth period.

The growing season deferment (June-August) would benefit vegetation health and vigor and allow a full growing season and seed drop to occur across the allotments over the three year grazing cycle. Re grazing the early pasture during the fall would not decrease plant vigor or vegetation health because it would occur after a full season of deferment for many plant species. The Proposed Action provides for vegetation treatments in areas that are not at desired plant community levels, deferred, rotational grazing system which is the best alternative for restoring, enhancing, and maintaining native vegetation.

Environmental Consequences, No Action Alternative: Continuation of season long grazing without rotation or deferment would not implement or facilitate any cheatgrass control measures that would help move the Alkali Springs Allotment toward meeting Land Health Standards. Current conditions would persist.

Environmental Consequences, No Grazing Alternative: All herbivory from domestic livestock would cease under this alternative. However, the likelihood of the landowner simply fencing off the isolated private parcels in the Alkali Springs Allotment so that the private lands grazing could continue to be utilized would be high. The result would be overall higher utilization of the public parcels by mule deer, pronghorn, and elk. While this, in general, would not lead to unacceptable levels of utilization within the plant community, very high wildlife populations in the area, especially elk, would lead to very similar impacts to forage species as the Proposed Action and No Action Alternatives. Under this alternative on the ground management and management priority would decrease resulting in native vegetation having less potential for restoration, enhancement, and maintenance as treatments to improve vegetation resources would be less likely to occur.

Environmental Consequences, Cumulative Impacts: The various upland plant communities on these allotments have been affected and influenced by a variety of natural and artificial influences over the years. Typically, sagebrush-dominated plant communities are highly dynamic and disturbance-driven and the communities throughout the allotments exhibit this.

BLM records indicate that the lands within the allotments have been grazed by livestock, primarily sheep, since the 1920's with more cattle influx since the 1960's, though it is likely that livestock have grazed these lands far longer. Additional herbivory by elk, mule deer, and pronghorn antelope occurred prior to human settlement and has continued alongside livestock use, though elk use has increased dramatically in the last 30 or so years. Livestock and wild ungulates, particularly in the numbers that occur in the area, have influenced species composition in ways that tend to favor more shrubby species, however, fire, disease, insects, and favorable moisture regimes have contributed to the healthy mix of woody and herbaceous species exhibited on the allotments today.

Future use on adjacent private lands would likely continue to include livestock grazing as a primary use in addition to energy development, recreational use and farming. When added to the existing activities approval of the Proposed Action would not cause undue damage to upland vegetation.

3.3.5 Wetlands and Riparian Zones

Affected Environment: There are no riparian resources in Dry Gulch Allotment. Riparian resources within Alkali Springs Allotment include several ephemeral drainages and two springs, most of which remain unassessed. Riparian resource condition on BLM portions of the Dry Gulch and Alkali Springs Allotment are described in Table 2 below:

Table 2. Condition of Riparian Areas within the Dry Gulch and Alkali Springs Allotments

Condition Assessment	Springs (acres)	Ephemeral Drainages (miles)
Functioning At Risk – condition improving	None identified	**0.5** (Scandinavian Gulch Reach 3 WITHIN exclosure*)
Functioning At Risk – no trend in condition	**0.1** (011-22 Scandinavia Gulch Spring)	**0.3** (Bighole Gulch R3)
Functioning At Risk – condition declining	None identified	**0.5** (Scandinavian Gulch Reach 3 BELOW exclosure*)
Non-Riparian (wells)	**0.4 acre** (010-10, 010-11, 010-12, 011-01, 011-24)	None identified
Unassessed	**0.1** (010-01 Flat Spring Seep)	**6 (**Thornburg Gulch R1, Scandinavian Gulch Reaches 1-4)
TOTAL	**0.2 acres**	**7.3 miles**

*Several wells have been drilled within Alkali Springs Allotment, two of which are "flowing" artesian wells. One well is of particular interest because of its current condition, the amount of water it produces, and the riparian conditions that have been created below the well head.

According to BLM well records, BLM well # 010-11 was drilled adjacent to Scandinavian Gulch sometime in the late 1970s or early 1980s by Orin Farnsworth, a gold exploration company,. No records exist for the actual drilling of the well, but it was permitted to BLM in 1989 for livestock and wildlife use. The well appears to have been mostly free-flowing because of a leaky well cap for quite some time, producing an estimated 400 gallons per minute that drains directly into Scandinavian Gulch. Severe erosion around the well head has occurred that has led to approximately 20 feet of the well pipe to be exposed. Over time, riparian vegetation has become established in Scandinavian Gulch, an otherwise ephemeral drainage, for about one mile below the well. This perennial source of water has attracted livestock to the area, leading to degraded conditions of this artificially sustained "riparian" area.

Two exclosures were built in 2007, one around the well itself and the other around approximately ½ mile of the riparian area. The purpose of the exclosures is to protect the well head and to improve conditions for greater sage grouse brood-rearing habitat by excluding livestock. The "riparian" area within was assessed in 2010 and found to be in decent shape, receiving an upward trend rating. The drainage immediately below the exclosure is heavily impacted by livestock and received a declining trend rating. The surface water created by the well in Scandinavian Gulch does not flow the entire length of the Gulch; the gulch has a sandy substrate and surface water generated by the well disappears before reaching the confluence with the Little Snake River.

Environmental Consequence, Proposed Action: The Proposed Action would produce positive benefits to riparian areas compared to the No Action Alternative, as the implementation of a pasture rotation system, the placement of temporary water sites, and the future opportunity to develop permanent water sources away from drainages (from the flowing wells, for example),

would facilitate redistribution of livestock both spatially and temporally and relieve limited riparian areas from any livestock pressure. By facilitating uniform livestock distribution, utilization of forage and soil compaction in and around riparian zones could be reduced.

Environmental Consequence, No Action: Although the condition of most riparian resources within the allotment is not known, the renewal of the existing grazing permit with the same terms and conditions would allow continuation of the livestock grazing and congregation in ephemeral drainages. Negative impacts on this limited riparian forage could contribute to soil compaction, bank trampling, and increased sediment filtering into waterways during runoff events.

Environmental Consequences, No Grazing Alternative: Generally speaking, removing livestock from the allotments would maintain and improve riparian resource conditions over the long-term. In ephemeral channels and wetlands, reduced livestock grazing pressure may also maintain or raise seasonal water tables during the dry season to a point where facultative and obligate riparian plant species are able to persist or even expand, thereby increasing channel stability. However, these benefits may not fully be realized if the riparian resource is used by wildlife, particularly large ungulates, since wildlife can also have similar impacts to riparian resources, especially during periods of drought. Also, livestock grazing on adjacent private and other non-federal lands would continue to produce direct effects to riparian resources that may indirectly affect riparian resources on federally managed lands.

Environmental Consequences, Cumulative Impacts: Past, present, and reasonably foreseeable actions that affect surface water quality in the Powderwash area primarily include ranching, mineral exploration and development, and the infrastructural development necessary to support these two activities.

Powderwash drains surface water via several (mostly ephemeral) tributaries to the Little Snake River. The effect to riparian areas due to fluid mineral and infrastructural development is primarily sedimentation, a result of the construction and maintenance of roads and pads that may be placed adjacent to riparian areas across the watershed. The portion of sediment that is delivered to the Little Snake River as a direct consequence of these improvements is not known, but is likely to occur during the spring high flow period coincident with the natural sediment discharge peak as well as summer storm events.

Most of the public lands within the watershed occur south of the river and are included in several grazing allotments. Where land health/riparian assessments are available, riparian standards are mostly being met. Riparian condition on private lands within the watershed is not known.

3.3.6 Wildlife, Terrestrial

Affected Environment: Plant communities within the two allotments are comprised primarily of sagebrush/bitterbrush stands with an understory of grasses and forbs. Pinyon-juniper woodlands are also scattered through the allotments, primarily on slopes and bluffs and in draws. A variety of wildlife habitats and their associated species occur in the general area. Common species such as coyotes, cottontail rabbits and ground squirrels likely use these habitats. The allotments provide winter habitat for elk, mule deer and pronghorn.

Environmental Consequences Proposed Action: The grazing system described in the Proposed Action incorporates deferment and rotation, which allows for ample growing season rest and adequate plant recovery periods. In an effort to reduce cheatgrass in the allotments, one pasture would receive early spring use each year. Cheatgrass can out compete native grasses and forbs and alter fire regimes, both of which reduce habitat quality for wildlife species. The Proposed Action should provide an overall benefit to vegetation throughout the allotments when compared to the current grazing system. The Proposed Action would also allow for improved vigor and an increase in native grasses and forms, and a reduction in non-native grasses. Overall, it is expected that the proposed grazing regime is compatible with maintaining local wildlife populations.

Water development: The proposed water tanks would have minimal impacts to wildlife species. Additional water sources would likely improve upland and riparian vegetation conditions by evenly distributing grazing throughout the allotments, in turn, improving wildlife habitat. Habitat in the immediate vicinity of the ponds would be degraded by livestock congregation, however, this would not affect the productivity of the surrounding habitat. The water developments would also provide additional water sources for wildlife species.

Fencing: Fences have potential to result in mortality of big game species as elk, mule deer and antelope can become entangled in fence wires during crossing. A three wire fence would be preferred over a four wire fence to reduce entanglements.

Environmental Consequences, No Action Alternative: Under this alternative, season long grazing would be allowed to continue on both allotments. This alternative may lead to an increase in cheatgrass infestations on the allotments, in turn reducing habitat quality for wildlife species. In addition, cheatgrass can change fire regimes, increasing fire frequency where infestations occur. Increased fire occurrence, coupled with weed infestations would have negative impacts to wildlife species.

Environmental Consequences, No Grazing Alternative: This alternative would lead to increases/improvements in vertical structure, composition and density of herbaceous understory on the allotment as a whole from current conditions. Benefits associated with livestock removal would be most expected in those areas that currently experience concentrated livestock use (such as water sources). However, this alternative would not address the cheatgrass infestation on the Alkali Springs Allotment.

Environmental Consequences, Cumulative Impacts: The primary use of the allotments and the surrounding area is livestock grazing, recreation (hunting) and some oil and gas development. Continuation of grazing would not be expected to add substantially to existing or proposed disturbances. The Proposed Action would likely improve existing habitat conditions by implementing a deferred grazing system and potentially reduce cheatgrass on the allotments.

3.4 HERITAGE RESOURCES AND HUMAN ENVIRONMENT

3.4.1 Cultural Resources

Affected Environment: Grazing authorization renewals are undertakings under Section 106 of the National Historic Preservation Act. During Section 106 review, a cultural resource assessment was completed for the Dry Gulch (#4517) and Alkali Springs (#4530) allotments on January 3, 2012 by Ethan Morton, Little Snake Field Office Archaeologist. The assessment followed the procedures and guidance outlined by the State Director of the Colorado Bureau of Land Management in Instructional Memorandums IM-WO-99-039, IM-CO-99-007, IM-CO-99-019, and IM CO-20002-29. The results of the assessment are summarized below. Copies of the cultural resource assessment are on file at the Little Snake Field Office.

The prehistoric and historic cultural context for northwestern Colorado has been described in several recent regional contexts. Reed and Metcalf's (1999) context for the Northern Colorado River Basin is applicable for the prehistoric context and historical contexts include overviews compiled by Frederic J. Athearn (1982) and Michael B. Husband (1984). A historical archaeology context has also been prepared for the state of Colorado by Church and others (2007). In addition, significant cultural resources administered by the BLM-LSFO have been discussed in a Class 1 overview (McDonald and Metcalf 2006) and valuable contextual information is available in synthesis reports of archaeological investigations for a series of large pipelines in the area (Metcalf and Reed 2011; Rhode and others 2010; Reed and Metcalf 2009).

Data developed here was taken from the cultural program project report files, site report files, and atlases kept at the Little Snake Field Office. Electronic files were also accessed at the Colorado Office of Archaeology and Historic Preservation through the on-line Compass database system. Government Land Office (GLO) plat maps, patent records, and United State Geological Survey (USGS) 1:24,000 scale topographical maps were also reviewed for potential undocumented historic resources.

The table below is based on an analysis developed for the specific allotment in this EA. The table shows known cultural resources, eligible and need data, and those that are anticipated to be in each allotment.

Allotment Number (BLM acres)	Acres Surveyed at a Class III Level	Acres NOT Surveyed at a Class III Level	Percent of Allotment Inventoried at a Class III Level	Eligible or Need Data Sites-Known in Allotment	Estimated Sites for the Allotment *(total number)	Estimated Eligible or Need Data Sites in the Allotment (number)
4517(4,112)	85	4,027	2%	3	194	49
4530(11,079)	693	10,309	7%	6	317	80

*Estimates of site densities are based on known inventory data. Estimates should be accepted as baseline figures which may be revised upwards or downwards based on future inventory findings.

Dry Gulch Allotment (#04517)

Seven cultural resource studies have been conducted within the Dry Gulch Allotment. All of these studies were related to energy exploration and development. Approximately 85 acres (2 percent) have been inventoried for cultural resources on BLM-LSFO administered lands within the allotment. These inventories resulted in the discovery of four cultural resources. These cultural resources consist of two aboriginal lithic scatters, one aboriginal open campsite, and a segment of the historic Thornburg Wagon Road.

The lithic scatters (5MF.310 and 5MF.544) have the potential to be eligible for the National Register but require additional data before recommendations can be made. Both of these sites have been subjected to disturbances and may have to be mitigated. The Thornburg Wagon Road (5MF.1707) has been determined eligible for the National Register. The portions of the wagon road within the allotment need to be evaluated as to their significance in contributing to the overall eligibility of the road. The plotted alignment of the wagon road roughly follows the alignment of Moffat County Road 86 and therefore it is likely that any potential contributing historic segments of the road have been obliterated. No potential undocumented cultural resources were discovered on the GLO and topographic maps besides the Thornburg Wagon Road depicted on the 1906 GLO plat which has been recorded as a linear site.

Due to the lack of inventory within the allotment it is difficult to estimate the numbers and locations of undiscovered cultural resources. However the proximity to the Little Snake River and the known location of the Thornburg Wagon Road suggest that this area would have been utilized by the aboriginal and historic inhabitants of the region. Based on available data (site density) it is likely that there are approximately 194 undocumented cultural resources on BLM-LSFO administered land within the allotment. It is estimated that approximately 49 of these resources would be recommended or determined eligible for the National Register (Historic Properties). Subsequent cultural resource inventory would be conducted in areas where livestock concentrate within ten years of issuance of a permit. This subsequent inventory would consist of approximately 86 acres and would also involve the evaluation of the two lithic scatters (5MF.310 and 5MF.544) and the Thornburg Wagon Road (5MF.1707). If archaeological or historic sites potentially eligible for the National Register are identified during the subsequent field inventory, and BLM-LSFO determines that grazing activities are adversely impacting the properties, mitigation would be identified and implemented in consultation with the Colorado State Historic Preservation Officer (SHPO).

Alkali Springs Allotment (#04530)

Thirty four cultural resource studies have been conducted within the Alkali Springs Allotment. Studies were primarily conducted for transportation, range improvements, and energy development projects. Most of these studies were small in scale (under 50 acres) except for a few large projects associated with a corridor of several natural gas pipelines and a geoseismic project. Approximately 693 acres (7 percent) have been inventoried for cultural resources on BLM-LSFO administered lands within the allotment.

These inventories resulted in the discovery of 22 cultural resources. Cultural resources consist of 14 aboriginal sites and isolates, 7 historic sites, and one multicomponent aboriginal and historic

site. Aboriginal sites and components consist of open lithic scatters (2), open campsites (8), and isolated finds (5). One of the open campsites is associated with the Middle Archaic era and another open campsite has Archaic and Late Prehistoric Era components. Two campsites are affiliated with the Late Prehistoric Era one of which may be affiliated with the Shoshoni Tribe. Historic sites and components consist of the Thornburg Wagon Road, historic trash scatters (2), segments of another wagon road (2), and segments of an irrigation ditch (3). Three of the aboriginal campsites (5MF.2170, 5MF.6774, and 5MF.6801) and the Thornburg Wagon Road have been recommended eligible for the National Register. Two of the other aboriginal campsites (5MF.4420, 5MF6531) have the potential to be eligible for the National Register but require additional data before recommendations can be made. All of the aboriginal sites have been impacted by disturbances and may have to mitigated. The portions of the Thornburg Wagon Road within the allotment need to be evaluated as to their significance in contributing to the overall eligibility of the road. An examination of the 1906 and 1907 GLO plats indicate the potential for several undocumented historic resources consisting of a "cabin", nine unnamed roads, a "Stand Pipe", and the "Ditch to Placer Mines".

Due to the lack of inventory within the allotment it is difficult to estimate the numbers and locations of undiscovered cultural resources. However the proximity to the Little Snake River and the known location of the Thornburg Wagon Road suggest that this area would have been utilized by the aboriginal and historic inhabitants of the region. Based on available data (site density) it is likely that there are approximately 317 undocumented cultural resources on BLM-LSFO administered land within the allotment. It is estimated that approximately 80 of these resources would be recommended or determined eligible for the National Register (Historic Properties). Subsequent cultural resource inventory would be conducted in areas where livestock concentrate within ten years of issuance of a permit. This subsequent inventory would consist of approximately 470 acres and would also involve site visits and evaluations of aboriginal sites: 5MF.2170, 5MF.4420, 5MF.6774, 5MF6531, 5MF.6801; the Thornburg Wagon Road (5MF.1707); and evaluations of the potential historic resources depicted on the GLO plats. If archaeological or historic sites potentially eligible for the National Register are identified during the subsequent field inventory, and BLM-LSFO determines that grazing activities are adversely impacting the properties, mitigation would be identified and implemented in consultation with the Colorado State Historic Preservation Officer (SHPO).

Environmental Consequences, Proposed Action and No Action Alternative: The direct impacts to Historic Properties where livestock concentrate include trampling, chiseling, and churning of site soils, cultural features, and cultural artifacts, artifact breakage, and impacts from standing, leaning, and rubbing against historic structures, above-ground cultural features, and rock art (Broadhead 2001, Osbourn et al. 1987). Indirect impacts from where livestock concentrate include soil erosion, gullying, and increased potential for unlawful collection of artifacts and vandalism of cultural resources. Other indirect impacts can include detracting from the integrity of setting and feeling for nearby Historic Properties within the viewshed of livestock concentration areas.

Mitigation Measures, Proposed Action and No Action Alternative: No known adverse impacts from livestock have been documented at the eight cultural resources which eligible or potentially eligible for the National Register. These sites should be revisited and evaluated as to any adverse impacts from livestock. Continued livestock use of the area is appropriate, as long as

any identified adverse effects are mitigated. Any proposed range improvements would undergo a Class III cultural resource inventory prior to approval. If BLM LSFO determines that livestock are having an adverse effect to historic properties mitigation measures would be developed such that livestock would have no effect to historic properties. If a no effect evaluation cannot be reached, specific mitigation would be developed in consultation with SHPO.

Environmental Consequences, No Grazing Alternative: While a no grazing alternative alleviates potential damage from livestock activities, cultural resources are constantly being subjected to site formation processes or events after creation (Binford 1981, Schiffer 1987). These processes can be both cultural and natural and take place in an instant or over thousands of years. Cultural processes include any activities directly or indirectly caused by humans. Natural processes include chemical, physical, and biological processes of the natural environment that impinge and or modify cultural materials. Sites which have been determined eligible for the National Register and are threatened may have to be mitigated.

Cumulative Impacts: The cumulative impacts to Historic Properties are confined to the allotment, lands adjacent to the allotment, and land within the view shed of the allotment. The region has been historically used for livestock for over seventy five years. The intensity of livestock grazing has generally decreased over time. Any Historic Property that has the potential to be adversely impacted by the present Proposed Actions was likely adversely impacted to a greater degree during the past when livestock use was more intensive. While continued livestock use may not directly impact areas where prior intensive use was present, secondary effects such as increased erosion may cause long term irreversible effects to Historic Properties if present. The presence of livestock has increased ground visibility and decreased erosion exposing deposits that would otherwise be obscured by vegetation or remain buried. The installation of range improvements and placement of mineral supplements has caused additional ground disturbances over time. Maintenance of roads and the removal and or replacement of range improvements have likely resulted in the obliteration of historic properties. Continued livestock use may cause substantial additional ground disturbance and cause cumulative, long term, irreversible adverse effects to historic properties if present.

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3.4.2 Native American Religious Concerns

Affected Environment: Four Native American tribes have cultural and historical ties to lands have administered by the BLM LSFO. These tribes include the Eastern Shoshone Tribe, Ute Mountain Ute Tribe, Uinta and Ouray Agency Ute Indian Tribe, and the Southern Ute Indian Tribe.

American Indian religious concerns are legislatively considered under several acts and Executive Orders, namely the American Indian Religious Freedom Act, the Native American Graves Environmental Assessment Protection and Repatriation Act, and Executive Order 13007 (Indian Sacred Sites). In summary, these require, in concert with other provisions such as those found in the NHPA and Archaeological Resources Protection Act, that the federal government carefully and proactively take into consideration traditional and religious Native American culture and life and ensure, to the degree possible, that access to sacred sites, the treatment of human remains, the possession of sacred items, the conduct of traditional religious practices, and the preservation of important cultural properties are considered and not unduly infringed upon. In some cases, these concerns are directly related to "historic properties" and "archaeological resources". In some cases elements of the landscape without archaeological or other human material remains may be involved. Identification of these concerns is normally completed during the land use planning efforts, reference to existing studies, or via direct consultation.

Consultations for grazing permit renewals are consulted on annually with the tribes. Letters were sent to the tribes in the spring of 2012 describing general livestock permitting. No comments were received. Specific range permits are generally not consulted with the tribes unless they rise to a level that warrants specific consultation. The location of any specific range permit has likely

not undergone an evaluation regarding the presence of items, sites, or landscapes which may be significant to the tribes.

Environmental Consequences, Proposed Action and No Action Alternative: Cultural items, sites, or landscapes determined to by culturally significant to the tribes can be directly or indirectly adversely impacted by livestock grazing. Direct impacts could include but are not limited to physical damage, removal of cultural objects or items, and activities thought to be disrespectful. Indirect impacts include but are not limited to prevention of access (hindering the performance of traditional ceremonies and rituals), increased visitation of a previously little used area, and loss of integrity related to religious feelings and associations.

There is one Late Prehistoric open campsite (5MF.6801) that has been affiliated with the Shoshone Tribe due to the presence of ceramic shreds which were collected. When this site is revisited if any adverse impacts related to stock are identified mitigation would be consulted on with the Shoshone Tribe. There are currently no known impacts from livestock There are no known other cultural items, sites, or landscapes determined to be culturally significant to the tribes within and near the undertaking area. The Proposed Action does not prevent access to any known sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies and rituals.

Mitigation Measures, Proposed Action and No Action Alternative: There are no known adverse impacts to any cultural items, sites, or landscaped determined to by culturally significant to the tribes. If any cultural items or sites are identified consultation would be initiated with the tribes. If new information is provided by Native Americans, additional or edited terms and conditions for mitigation may have to be negotiated or enforced to protect resource values.

Environmental Consequences, No Grazing Alternative: None

Cumulative Impacts: Continued use of the area by livestock had an additive effect of changing the landscape from that known by the tribes. There are no specific sites of concern identified in the project area; it is rather the broader continued change that modern culture brings to the landscape.

CHAPTER 4– PUBLIC LAND HEALTH STANDARDS

4.1 INTRODUCTION

The Dry Gulch #04517 and Alkali Springs #04530 Allotments were assessed for compliance with the Colorado Standards of Public Land Health by and interdisciplinary team consisting of three Rangeland Management Specialist and two Wildlife Biologists on June 15th 2003 as part of the Powderwash Landscape Scale Land Health Assessment. Both allotments were included in the Scandinavia Landscape Scale Land Health Assessment in 1998, although no determination was made in 1998 both allotments were noted as having more than expected cheatgrass and low production in sagebrush and native grasses.

4.2 COLORADO PUBLIC LAND HEALTH STANDARDS

In January 1997, the Colorado State Office of the BLM approved the Standards for Public Land Health and amended all RMPs in the State. Standards describe the conditions needed to sustain public land health and apply to all uses of public lands.

4.2.1 Standard 1 Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes.

Finding of most recent assessment: Both allotments, this standard is met. Indicators such as the presence of pedestalling, rills, surface litter, and plant cover showed that there is no accelerated erosion and that soils are stable.

Proposed Action: This alternative would change the historic grazing regime. This alternative would introduce beneficial impacts that would result in changes to current conditions and would not preclude this standard from being met.

No Action Alternative: This alternative would maintain current conditions relative to this standard and would not preclude it from continuing to be met.

No Grazing Alternative: Cessation of livestock grazing would remove all potential impacts to soils on public lands by livestock within the public land parcels. This would result in this standard continuing to be met.

4.2.2 Standard 2 Riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance such as fire, severe grazing, or 100-year floods.

Finding of most recent assessment: Most riparian resources are ephemeral in nature and have not been assessed using current riparian health measures.

Proposed Action: The proposed spatial and temporal changes to grazing management proposed under this alternative would likely lead to an improvement of riparian conditions over time and would not result in changes to current conditions that are allowing this standard to be met. This standard would continue to be met under this alternative.

No Action Alternative: This alternative would maintain current conditions relative to this standard. Current conditions are not fully known within the Alkali Springs Allotment and current grazing management may or may not preclude it from continuing to be met.

No Grazing Alternative: Cessation of livestock grazing would remove all potential impacts to riparian areas on public lands by livestock within the public land parcels. This would result in this standard continuing to be met.

4.2.3 Standard 3 Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential.

Finding of most recent assessment: This standard is met on the Dry Gulch Allotment #04517. This standard is not met in the Alkali Springs Allotment #04530. This was due to the abundance of non-native species such as cheatgrass and annual pepperweed that are adversely influencing the productivity of the native communities and impacting wildlife habitat includes appropriate structure, seral stage distribution, and patch sizes.

Proposed Action: This alternative would change the historic grazing regime and is specific to moving this standard toward being met. This alternative would introduce beneficial impacts that would result in changes to current conditions and would facilitate moving this standard to being met and maintaining improved conditions on both allotments.

No Action Alternative: This alternative would maintain current conditions relative to this standard. Standards would continue not to be met in the Alkali Springs Allotment #04530.

No Grazing Alternative: Removal of livestock grazing would continue to allow or even increase herbivory from elk, mule, and pronghorn antelope. Despite the continued use from all of these species, this standard would continue to not be met.

4.2.4 Standard 4 Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.

Finding of most recent assessment: The allotments provide habitat for greater sage-grouse, a BLM sensitive species and a candidate for listing under the Endangered Species Act. The allotments also provides habitat for two additional BLM sensitive species: bald eagles and Brewer's sparrow. Overall, vegetative communities within the Dry Gulch Allotment are in good condition, providing suitable habitat for sensitive wildlife species. Habitat on the Alkali Springs Allotment was in fair condition and habitat quality has been reduced due to cheatgrass infestations.

Proposed Action: This standard is met on the Dry Gulch Allotment and habitat conditions should continue to meet this standard under the Proposed Action. The Proposed Action would improve habitat conditions on the Alkali Springs Allotment and move this award towards meeting this standard.

No Action Alternative: Conditions would remain the same this standard would continue to be met on the Dry Gulch Allotment, and continue not to be met on the Alkali Springs Allotment.

No Grazing Alternative: Conditions would remain the same as current livestock management is not a causal factor in not meeting this standard. Without any control or management of cheatgrass, the existence and potential spread of cheatgrass would continue.

4.2.5 Standard 5 The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands would achieve or exceed the Water Quality Standards established by the State of Colorado.

Finding of most recent assessment: There are no water quality impairments or suspected water quality issues for perennial waters influenced by the allotment. This standard is met.

Proposed Action: The proposed changes to grazing management under this alternative, both spatially and temporally, would not result in changes to current conditions (and would likely improve conditions over time) that are allowing this standard to be met. This standard would continue to be met under this alternative.

No Action Alternative: This standard is currently being met under this alternative. This alternative would allow this standard to continue to be met.

No Grazing Alternative: Cessation of livestock grazing would remove all potential impacts to riparian areas on public lands by livestock within the public land parcels. This would result in this standard continuing to be met.

SIGNATURE OF PREPARER:

SIGNATURE OF ENVIRONMENTAL REVIEWER:

DATE SIGNED:

Finding of No Significant Impact
DOI-BLM-CO-N010-2013-0006-EA

Based upon a review of this Environmental Assessment and the supporting documents, I have determined that the Proposed Action is not a major federal action and would not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity, as defined at 40 CFR 1508.27 and do not exceed those effects as described in the Little Snake Record of Decision and Resource Management Plan (2011). An environmental impact statement is not required. This finding is based on the context and intensity of the project as described below.

Context: The project is a site-specific action directly involving BLM administered public lands that do not in and of itself have international, national, regional, or state-wide importance.

Intensity: The following discussion is organized around the 10 Significance Criteria described at 40 CFR 1508.27. The following have been considered in evaluating intensity for this Proposed Action:

1. Impacts that may be both beneficial and adverse
The beneficial effects of the Proposed Action includes: in authorizing public land grazing this action sustains the local economy as grazing operations would continue to supply personal income to the operator and employees, and would have a proportional influence on the regional, Colorado, and national economy. This action supports the western livestock industry. The authorized livestock operator(s) have mandatory and special terms and conditions that must be met to maintain their grazing preference. This provides a certain level of stewardship of public lands in that if these lands were to become degraded by any activity or event, natural or human in origin, grazing and or other authorized uses would be terminated. This stewardship role of the livestock operator not only mandates proper livestock and forage management but also provides communication with the BLM as to other activities or events that could cause degradation to public lands. Long term effects would be limited in scope.

2. Degree of effect on public health and safety
There would be no effects on public health and safety.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas
There are no park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas in the area of Proposed Action. As described in the EA, impacts to cultural resources were identified for the Proposed Action. As this action is not a new action but a continuation of historic land uses in this area there would be no affect to unique characteristics of the geographic area.

4. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial
Public input regarding the Proposed Action has been solicited during the planning process. The BLM Little Snake Field Office sent out a Notice of Public Scoping on December 22, 2006 to determine the level of public interest, concern, and resource conditions on the grazing authorizations that were up for renewal in FY 2008. A Notice of Public Scoping was posted on the Internet, at the Colorado BLM Home Page, asking for public input on permit/lease renewals. Individual letters were sent to the affected permittees/lessees, informing them their permit/lease was up for renewal and requesting any information they wanted included in or taken into consideration during the renewal process. No comments were received.

5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk
No highly uncertain or unknown risks to the human environment were identified during analysis of the Proposed Action.

6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration
The Proposed Action neither establishes a precedent for future BLM actions with significant effects nor represents a decision in principle about a future consideration.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts
No individually or cumulatively significant impacts were identified for the Proposed Action. Any adverse impacts identified for the Proposed Action, in conjunction with any adverse impacts of other past, present, or reasonably foreseeable future actions would result in negligible impacts to natural and cultural resources.

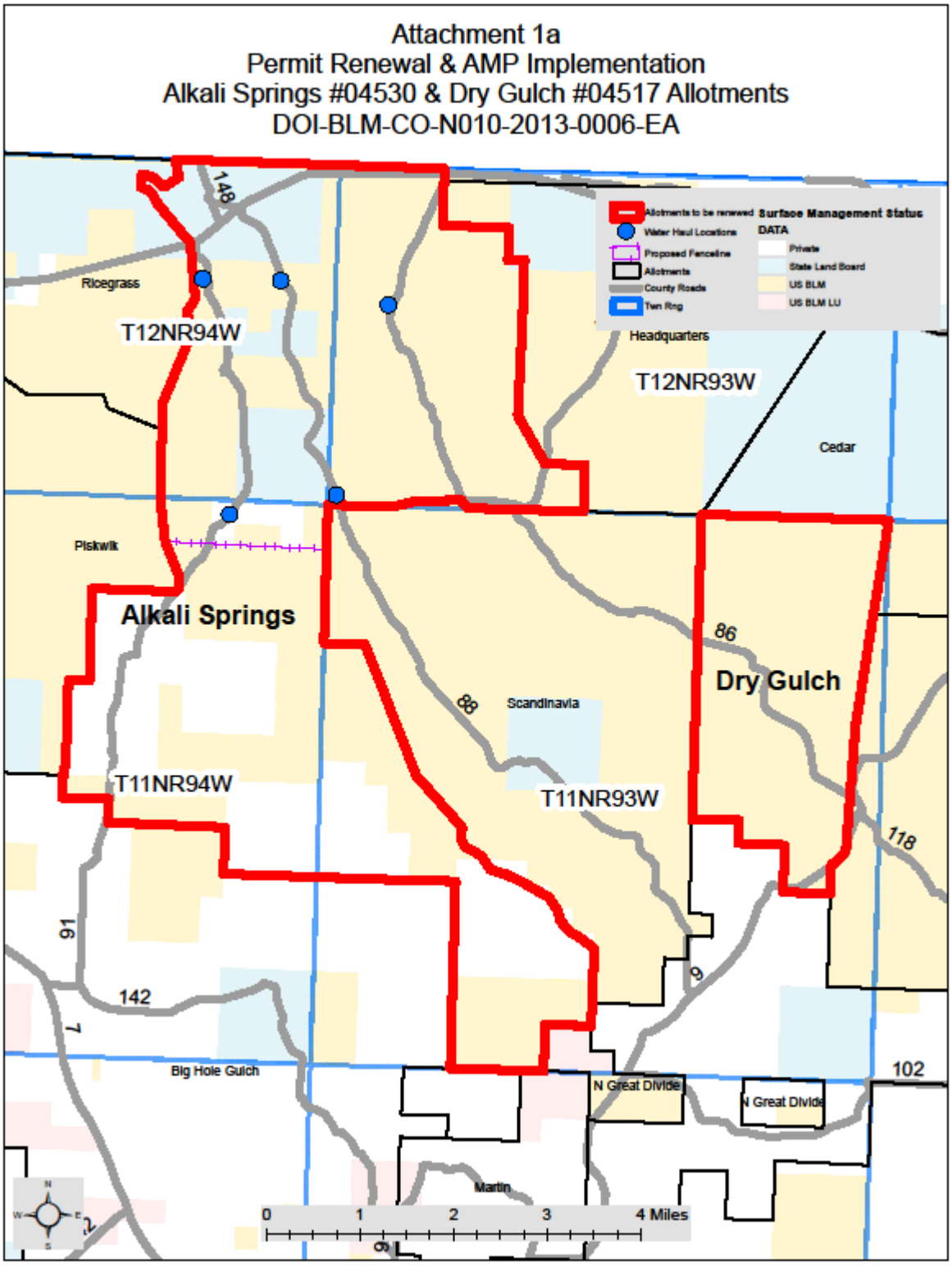
8. Degree to which the action may adversely affect district, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:
There would be no loss or destruction to these resources. A cultural resources study is initiated prior to any action considered and undertaking under Section 106 of the National Historic Preservation Act. Any adverse effects to Historic Properties are mitigated in consultation with the Colorado Office of Archaeology and Historic Preservation (SHPO).

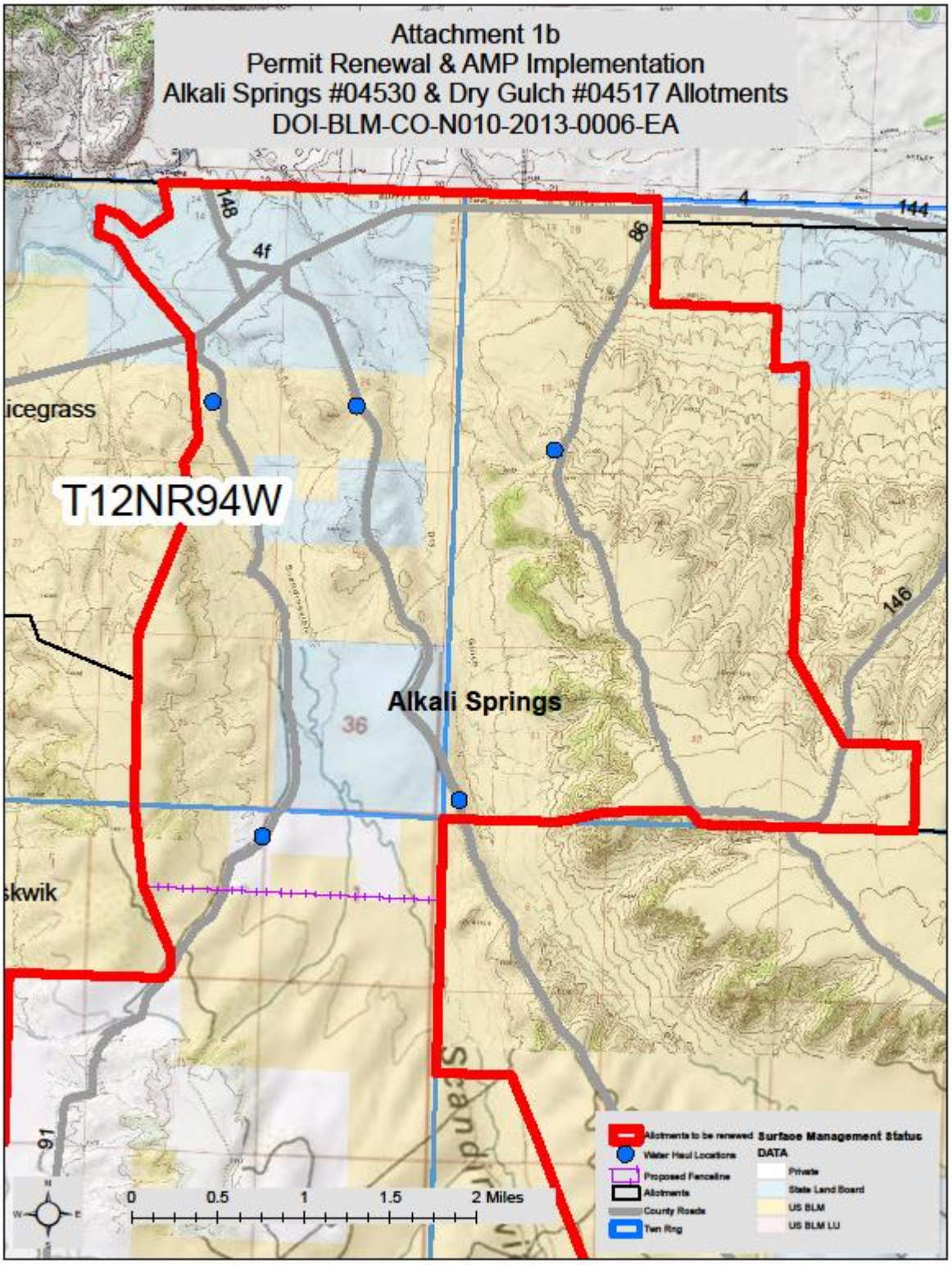
9. Degree to which the action may adversely affect an endangered or threatened species or its critical habitat
There are no threatened or endangered species or habitats for such species present within these allotments.

10. Whether the action threatens a violation of federal, state, or local environmental protection law
The Proposed Action violates no federal, state, or local environmental protection laws.

SIGNATURE OF AUTHORIZED OFFICIAL: _____/s/ Wendy Reynolds_____
Wendy Reynolds, Field Manager

DATE SIGNED: 01/22/13


Attachment 1a
Permit Renewal & AMP Implementation
Alkali Springs #04530 & Dry Gulch #04517 Allotments
DOI-BLM-CO-N010-2013-0006-EA
Allotments to be renewed
Water Haul Locations
Proposed Fenceline
Allotments
County Roads
Twn Rng
Surface Management Status
DATA
Private
State Land Board
US BLM
US BLM LU
Ricegrass
T12NR94W
Headquarters
T12NR93W
Cedar
Piskwik
Alkali Springs
Dry Gulch
Scandinavia
T11NR94W
T11NR93W
148
86
89
118
91
142
7
9
102
Big Hole Gulch
N Great Divide
N Great Divide
Martin
0 1 2 3 4 Miles


Attachment 1b
Permit Renewal & AMP Implementation
Alkali Springs #04530 & Dry Gulch #04517 Allotments
DOI-BLM-CO-N010-2013-0006-EA
T12NR94W
Alkali Springs
icegrass
skwik
148
4f
4
144
88
146
36
91
0
0.5
1
1.5
2 Miles
Allotments to be renewed
Water Haul Locations
Proposed Fenceline
Allotments
County Roads
Twn Rng
Surface Management Status
DATA
Private
State Land Board
US BLM
US BLM LU

ATTACHMENT #2
DOI-BLM-CO-N010-2013-0006-EA
TERMS AND CONDITIONS

Standard Terms and Conditions

1) Grazing permit or lease terms and conditions and the fees charged for grazing use are established in accordance with the provisions of the grazing regulations now or hereafter approved by the Secretary of the Interior.

2) They are subject to cancellation, in whole or in part, at any time because of:
   a. Noncompliance by the permittee/lessee with rules and regulations;
   b. Loss of control by the permittee/lessee of all or a part of the property upon which it is based;
   c. A transfer of grazing preference by the permittee/lessee to another party;
   d. A decrease in the lands administered by the Bureau of Land Management within the allotment(s) described;
   e. Repeated wouldful unauthorized grazing use;
   f. Loss of qualifications to hold a permit or lease.

3) They are subject to the terms and conditions of allotment management plans if such plans have been prepared. Allotment management plans MUST be incorporated in permits and leases when completed.

4) Those holding permits or leases MUST own or control and be responsible for the management of livestock authorized to graze.

5) The authorized officer may require counting and/or additional or special marking or tagging of the livestock authorized to graze.

6) The permittee's/lessee's grazing case file is available for public inspection as required by the Freedom of Information Act.

7) Grazing permits or leases are subject to the nondiscrimination clauses set forth in Executive Order 11246 of September 24, 1964, as amended. A copy of this order may be obtained from the authorized officer.

8) Livestock grazing use that is different from that authorized by a permit or lease MUST be applied for prior to the grazing period and MUST be filed with and approved by the authorized officer before grazing use can be made.

9) Billing notices are issued which specify fees due. Billing notices, when paid, become a part of the grazing permit or lease. Grazing use cannot be authorized during any period of delinquency in the payment of amounts due, including settlement for unauthorized use.

10) Grazing fee payments are due on the date specified on the billing notice and MUST be paid in full within 15 days of the due date, except as otherwise provided in the grazing

permit or lease. If payment is not made within that time frame, a late fee (the greater of $25 or 10 percent of the amount owed but not more than $250) would be assessed.

11) No member of, or Delegate to, Congress or Resident Commissioner, after his/her election of appointment, or either before or after he/she has qualified, and during his/her continuance in office, and no officer, agent, or employee of the Department of Interior, other than members of Advisory committees appointed in accordance with the Federal Advisory Committee Act (5 U.S.C. App. 1) and Sections 309 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) shall be admitted to any share or part in a permit or lease, or derive any benefit to arise therefrom; and the provision of Section 3741 Revised Statute (41 U.S.C. 22), 18 U.S.C. Sections 431-433, and 43 CFR Part 7, enter into and form a part of a grazing permit or lease, so far as the same may be applicable.

Common Terms and Conditions

A) Grazing use would not be authorized in excess of the amount of specified grazing use (AUM number) for each allotment. Numbers of livestock annually authorized in the allotment(s) may be more or less than the number listed on the permit/lease within the grazing use periods as long as the amount of specified grazing use is not exceeded.

B) Unless there is a specific term and condition addressing utilization, the intensity of grazing use would insure that no more than 50% of the key grass species and 40% of the key browse species current year's growth, by weight, is utilized at the end of the grazing season for winter allotments and the end of the growing season for allotments used during the growing season. Application of this term needs to recognize recurring livestock management that includes opportunity for regrowth, opportunity for spring growth prior to grazing, or growing season deferment.

C) Failure to maintain range improvements to BLM standards in accordance with signed cooperative agreements and/or range improvement permits may result in the suspension of the annual grazing authorization, cancellation of the cooperative agreement or range improvement permit, and/or the eventual cancellation of this permit/lease.

D) Salt and/or mineral supplements shall be place at least on-quarter mile from water sources or in such a manner as to promote even livestock distribution within the allotment or pasture.

E) 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 vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

The operator is responsible for informing all persons who are associated with the allotment operations that they would be subject to prosecution for knowingly disturbing

historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any allotment activities or grazing activities, the operator is to immediately stop activities in the immediate vicinity and immediately contact the authorized officer. Within five working days the authorized officer would inform the operator as to:

-whether the materials appear eligible for the National Register of Historic Places;
-the mitigation measures the operator would likely have to undertake before the identified area can be used for grazing activities again.

If paleontological materials (fossils) are uncovered during allotment activities, the operator is to immediately stop activities that might further disturb such materials and contact the authorized officer. The operator and the authorized officer would consult and determine the best options for avoiding or mitigating paleontological site damage.

F) No hazardous materials/hazardous or solid waste/trash shall be disposed of on public lands. If a release does occur, it shall immediately be reported to this office at (970) 826-5000.

G) The permittee/lessee shall provide reasonable administrative access across private and leased lands to the BLM and its agents for the orderly management and protection of public lands.

H) Application of a chemical or release of pathogens or insects on public lands must be approved by the authorized officer.

I) The terms and conditions of this permit/lease may be modified if additional information indicates that revision is necessary to conform with 43 CFR 4180.