

**United States Department of the Interior
Bureau of Land Management**

**Environmental Assessment
for the renewal of the grazing permit on the Jesse Flats
#04417, Cinder Knob #04419, and Coal Mountain #04420
Allotments**

Little Snake Field Office
455 Emerson Street
Craig, Colorado

DOI-BLM-CO-N010-2013-0041-EA

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CHAPTER 1 - INTRODUCTION

1.1 IDENTIFYING INFORMATION

PROJECT NAME: Renewal of the grazing permit on the Jesse Flats #04417, Cinder Knob #04419, and Coal Mountain #04420 Allotments.

CASEFILE/ALLOTMENT NUMBER: 0504550/ 04417, 04419, 04420

1.2 PROJECT LOCATION AND LEGAL DESCRIPTION

LEGAL DESCRIPTION: see Allotment Map, Attachment 1.

Jesse Flats Allotment #04417	T5N R94W por. secs. 17-21, 29 980 acres BLM 153 acres State Land Board <u>2,715</u> acres private 3,848 acres total
Cinder Knob Allotment #04419	T5N R95W por. secs. 25-27, 34-36 1,178 acres BLM 96 acres State Land Board <u>487</u> acres private 1,761 acres total
Coal Mountain Allotment #04420	T5N R94W por. secs. 30 and 31 T5N R95W por. secs. 25, 34-36 T4N R95W por. secs. 10-16, 21 and 22 1,264 acres BLM <u>905</u> acres private 2,169 acres total

COUNTY AND GENERAL LOCATION: South central Moffat County south of the Yampa River, north of the Danforth Hills, west of Milk Creek.

LANDSCAPE DESCRIPTION: Rolling sagebrush grassland with surrounding areas of steep brushy slopes and deep drainages, elevations range from 6,200 to 7,300 feet.

APPLICANT: Harry Kourlis Ranch

1.3 BACKGROUND

The base property with attached BLM grazing preference for the Jesse Flat, Cinder Knob, and Coal Mountain Allotments was sold to current owners (Efficiency Lodge Inc.) in 2007. Since that time, Efficiency Lodge has leased the base property and associated grazing preference to one

individual, and after cancelling that lease in 2008 has run livestock on the permit under their own name. In October 2011, Efficiency Lodge Inc. leased the base property to Harry Kourlis Ranch for a period of ten years, expiring on January 30, 2021. The current permit was transferred under the existing Terms and Conditions for a ten year term in 2009 (DOI-BLM-CO-010-2009-0098-DNA) expiring on 02/28/2019. Since acquiring the base property lease Mr. Kourlis has applied for a change in terms and conditions annually. These changes have been accommodated by issuing temporary non-renewable permits in 2011 and 2012. The BLM is now analyzing the proposed changes that would remain in effect until the expiration of the base property lease on January 30, 2021, or earlier if terminated by either lessor or lessee.

1.4 PURPOSE AND NEED

The purpose of this action is to facilitate the orderly use of public lands for livestock grazing in accordance with the Taylor Grazing Act of 1934 as amended; the Federal Land Policy and Management Act of 1976 as amended; and the Public Rangelands Improvement Act of 1978. Implementation of the proponent's proposed grazing plan is expected to facilitate acceptable livestock management in the Jesse Flats #04417, Cinder Knob #04419, and Coal Mountain #04420 Allotments.

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 following EA will analyze the impacts of livestock grazing on public land managed by the BLM. The analysis will recommend terms and conditions to the permit/lease which improve or maintain public land health. The Proposed Action will 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 Little Snake Resource Management Plan allows grazing to continue in these allotments. This EA will 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.

1.4.1 Decision to be Made

The BLM will decide whether or not to issue a grazing permit with modifications from the current permit.

1.5 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

1.6 PUBLIC PARTICIPATION

1.6.1 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.

Persons/Agencies Consulted: Harry Kourlis Ranch.

Internal Scoping Summary: The Proposed Action and Alternatives were introduced to the Little Snake NEPA interdisciplinary team on April 22, 2013. 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 Proposed Action

The Proposed Action would change grazing in the Jesse Flats Allotment from a spring and fall schedule to a fall only schedule. Grazing in this allotment would be permitted from early September to early December for about 90 days. Growing season rest would occur every year. The Cinder Knob and Coal Mountain Allotments would each be grazed for about 60-70 days in either the early summer or fall (depending on the year). In even years, the Coal Mountain Allotment would receive rest through most of the growing season and in odd years, the Cinder Knob Allotment would receive rest through most of the growing season.

Renew the grazing permit on the Jesse Flats #04417, Cinder Knob #04419, and Coal Mountain #04420 Allotments for a period of eight years that coincides with the base property lease, expiring January 30, 2021. The permit would be reissued with the following changes in Terms and Conditions.

From:

Allotment Name and Number	Livestock Number and Kind	Grazing Period		%PL	AUMs
		Begin	End		
Jesse Flats #04417	150 Cattle	05/10	06/11	31	50
	150 Cattle	09/08	10/10	31	50
					Suspended <u>20</u>
					Total 120
Cinder Knob #04419	150 Cattle	06/12	07/10	100	143
Coal Mountain #04420	150 Cattle	07/10	09/10	51	158

The above permit would be subject to the following Special Terms and Conditions:

- 1) The permittee is allowed five days flexibility in pasture movements, including in to and out of the allotments, as long as the amount of specified grazing use (AUMs allowed) is not exceeded.
- 2) In even years, cattle will move through Cinder Knob/Coal Mountain beginning on the north end of the Cinder Knob Allotment. In odd years, cattle will move through Cinder Knob/Coal Mountain beginning on the north end of the Coal Mountain Allotment. Roughly half the grazing season will be spent in each allotment.
- 3) The allowed season of use for both the Cinder Knob and Coal Mountain Allotments is 6/12-9/10 to provide for the rotational grazing system.

To:

Allotment Name and Number	Livestock Number and Kind	Grazing Period		%PL	AUMs
		Begin	End		
Jesse Flats #04417	115 Cattle	09/08	12/01	31	100
				Suspended	<u>20</u>
				Total	120
Cinder Knob #04419	32 Cattle	06/12	10/25	100	143
Coal Mountain #04420	69 Cattle	06/12	10/25	51	157
				Not Scheduled	<u>1</u>
				Total	158

The above permit would be subject to the following Special Terms and Conditions:

- 1) The permittee is allowed five days flexibility in pasture movements, including in to and out of the allotments, as long as the amount of specified grazing use (AUMs allowed) is not exceeded.
- 2) In even years, cattle will move through Cinder Knob/Coal Mountain beginning on the north end of the Cinder Knob Allotment. In odd years, cattle will move through Cinder Knob/Coal Mountain beginning on the north end of the Coal Mountain Allotment. Roughly half the grazing season will be spent in each allotment. This rotation must be completed within the authorized season of use. The season of use dates are designed for flexibility livestock will not be on the allotments for the entire authorized season of use, livestock number and dates used within the authorized season of use for both allotments will vary from year to year.

The above permit would be subject to the Standard and Common Terms and Conditions; see Attachment 2.

2.2.2 No Action Alternative

The current grazing permit would not be modified. The Standard and Common Terms and Conditions would continue to apply.

2.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

A No Grazing Alternative was considered but not analyzed because there is a current permit in place, which is not expiring. Depending on which alternative is chosen a No Grazing Alternative will be analyzed in detail at the end of the permit term, either in 2019 or 2021.

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 will 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 rarely flooded FEMA-identified 100-year floodplains present on public lands within the all three of the allotments. However, no alternative includes development in floodplains. No threat to human safety, life, welfare and property will result from implementing either of the alternatives.
NI	Hydrology, Ground	There would be no impact to ground water hydrology with implementation of either alternative.
PI	Hydrology, Surface	See Water Quality, Surface
NI	Minerals, Fluid	There would be no impact to fluid minerals with implementation of either alternative.
NI	Minerals, Solid	There are no authorized solid mineral leases, notices, plans of operation, or permits within the proposed action boundary.
PI	Soils	See Chapter 3 for a complete analysis.
NI	Water Quality, Ground	There would be no impact to groundwater quality with implementation of either alternative.
PI	Water Quality, Surface	See Chapter 3 for a complete analysis.
Biological Resources		
PI	Invasive, Non-native Species	See Chapter 3 for a complete analysis.

Determination¹	Resource	Resource Issue/Rationale for Determination
PI	Migratory Birds	See Chapter 3 for a complete analysis.
PI	Special Status Animal Species	See Chapter 3 for a complete analysis.
NP	Special Status Plant Species	There are no federally listed threatened, endangered, or BLM sensitive plant species populations identified on these allotments.
PI	Upland Vegetation	See Chapter 3 for a complete analysis.
PI	Wetlands and Riparian Zones	See Chapter 3 for a complete analysis.
NI	Wildlife, Aquatic	There would be no impact to aquatic wildlife from any of the alternatives.
PI	Wildlife, Terrestrial	See Chapter 3 for a complete analysis.
NP	Wild Horses	There are no Herd Management Areas within close proximity that would be impacted by either alternative.
Heritage Resources and the Human Environment		
PI	Cultural Resources	See Chapter 3 for a complete analysis.
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	Subject to WO-IM 2011-154 and in accordance with BLM policy, some of the proposed project areas fall within areas greater than 5000 acres which may be suitable as lands with wilderness characteristics. The proposed action may impact but not impair wilderness characteristics; however, grazing activities are appropriate and consistent with applicable requirements of law and other resource management considerations, and is approved by the field manager.
NI	Native American Religious Concerns	There are no known items, sites, or landscapes determined as culturally significant to the tribes within or immediately adjacent to the permit areas. The proposed action does not prevent access to any known sacred sites, prevent the possession of sacred objects, or interfere with the performance of traditional ceremonies and/or rituals.
NI	Paleontological Resources	There would be no impact to paleontological resources from either alternative.
NI	Social and Economic Conditions	There would not be any significant changes to local social or economic conditions.
NI	Visual Resources	The grazing allotment 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. Based on seven criteria, the Scenic Quality Rating is C. The Sensitivity Level Rating is Moderate, where maintenance of visual quality has moderate value. The area falls within the foreground-middleground zone where management activities and proposed projects may be viewed in more detail. No impacts to visual resources would be anticipated.

Resource Uses		
NI	Access and Transportation	There would not be a significant impact to access and/or transportation in the project area. Motorized use i.e. OHV will be limited to existing and or designated roads and trails only unless authorized by BLM.
NI	Fire Management	The Proposed Action would have no impact to fire management.
NP	Forest Management	There are no forest resources that would be impacted by either alternative.
NI	Livestock Operations	Livestock operations would continue in a more favorable and sustainable manner with approval of the Proposed Action.
NI	Prime and Unique Farmlands	Both the Cinder Knob and Jesse Flats allotments contain special status farmlands, including farmlands of statewide importance and farmland that would be considered prime if irrigated. However, these special status farmlands would not be impacted, as none of these soils on public lands are or would become irrigated or otherwise manipulated so as to create conditions favorable to create prime farmland within the two allotments.
NI	Realty Authorizations, Land Tenure	There would be no significant impact to realty authorizations in the project area.
NI	Recreation	There would not be a significant impact to recreation in this project area.
Special Designations		
NP	Areas of Critical Environmental Concern	The project area does not meet the criteria for protection as an ACEC. The Irish Canyon ACEC is not in the vicinity of the proposed project area and would not be affected by the proposed action(s).
NP	Wild and Scenic Rivers	The project area is not located within or in the vicinity of WSRs
NP	Wilderness Study Areas	The project area is not located within or in the vicinity of WSAs.

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 major soil groups included within the Cinder Knob, Coal Mountain, and Jesse Flats Allotments. Soils within the allotments 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.

Table 1. Soil Summary for the Cinder Knob, Coal Mountain, and Jesse Flats Allotments

Soil Map Unit (MU) & Soil Name	Map Unit Setting	Description
MU 46 Coyet loamy sand, 12-25% slope	<u>Elevation:</u> 5,800' – 6,800' <u>Mean annual precipitation:</u> 11-13" <u>Ecological Site:</u> Sandhills	These hillslope soils are excessively drained with moderately rapid permeability and low runoff potential. Available water capacity is low and the soil profile is typically 60" deep, composed entirely of loamy sand.
MU 47 Coyet-Crestman, moist complex, 20 to 50% slopes	<u>Elevation:</u> 6,000' – 7,200' <u>Mean annual precipitation:</u> 13-14" <u>Ecological Site:</u> Sandy Foothills and Loamy Breaks	These hillslope soils are excessively drained with moderately rapid permeability and medium to very high runoff potential. Available water capacity is low to very low and the soil profile is typically 18 to 52" inches deep, composed mostly of loamy sand, sand, and gravelly loamy sand.
MU 112 Kemmerer-Moyerson complex, 20 to 40% slopes	<u>Elevation:</u> 6,000 to 7,000 feet <u>Mean annual precipitation:</u> 11 to 13" <u>Ecological Site:</u> Clayey Slopes	These hillslope soils are well drained with very slow to moderate permeability and medium to very high runoff potential. Available water capacity varies widely and the soil profile is typically up to 26 inches deep, comprised mostly of clay and silty clay.
MU 149 Pinelli loam, 3 to 12% slopes	<u>Elevation:</u> 6,200 – 7,000 feet <u>Mean annual precipitation:</u> 12-14" <u>Ecological Site:</u> Clayey Foothills	These bench and alluvial fan soils are well drained with slow permeability and very high runoff potential. Available water capacity is high and the soil profile is typically up to 60 inches deep, composed mainly of clay loam.
MU 162 Rock River sandy loam, 3 to 12% slopes	<u>Elevation:</u> 6,200 to 7,200 feet <u>Mean annual precipitation:</u> 11 to 13" <u>Ecological Site:</u> 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.

<p>MU 179</p> <p>Skyway fine sandy loam, dry, 15 to 75% slopes</p>	<p><u>Elevation:</u> 7,000 – 8,500 feet</p> <p><u>Mean annual precipitation:</u> 18-20”</p> <p><u>Ecological Site:</u> Brushy loam</p>	<p>These mountainside soils are well drained with moderately rapid permeability & high runoff potential. Available water capacity is low & the soil profile is typically up to 35 inches deep, composed mostly of fine sandy loam and gravelly sandy loam down to unweathered bedrock.</p>
<p>MU 197</p> <p>Torriorthents-Rock outcrop, sandstone complex , 25 to 75% slopes</p>	<p><u>Elevation:</u> 6,000 - 11,280 feet</p> <p><u>Mean annual precipitation:</u> 9-16”</p> <p><u>Ecological Site:</u> not given</p>	<p>These backslope soils are well drained with moderate permeability and very high runoff potential. Available water capacity is very low and the soil profile is typically 0-18” deep, composed mostly of channery sandy loam and channery clay loam down to bedrock.</p>

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

According to the most recent standards analysis (conducted in June 2007 and documented in DOI-BLM-CO-010-2009-0098-DNA), soils in all three allotments are meeting the upland soils standard. However, the upland vegetation standard, which is indirectly related to soil community function and stability, is not being met in portions of the Jesse Flats and Cinder Knob allotments due to high annual grass cover and closed sagebrush stands. Since 2007, vegetation utilization in Jesse Flats has been monitored both in 2010 and 2011 and data indicates an improved perennial grass community with slight to moderate plant use at all key areas. 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).

Environmental Consequences, Proposed Alternative: Eliminating spring use on the Jesse Flat Allotment would facilitate the observed upward trend in vegetation condition, thereby having an indirect beneficial effect to soil community health. The Proposed Action continues the deferred, rotational grazing system for the Cinder Knob and Coal Mountain allotments, which also facilitates the recovery and enhancement of native vegetation that would, in turn, improve soil stability by protecting the soil surface from erosion and increase plant litter that facilitates water permeability and aids in soil moisture retention.

Environmental Consequences, No Action: While soil standards are currently being met in the three allotments, current grazing management may not promote the improvement in the health and vigor of native, perennial vegetation that is important for maintaining soil health and stability that the Proposed Alternative aims to achieve. A continuation of this alternative may lead to a decline of native vegetation that can indirectly result in the decline of soils to a point at which land health standards may not be met.

Environmental Consequences, Cumulative Impacts: Past, present, and reasonably foreseeable actions that affect soils in the Axial Basin primarily include ranching, some fluid mineral exploration and development, and the infrastructural development necessary to support these two activities. The majority of livestock grazing impacts occur around existing water sources such as streams, springs, troughs, stock ponds, areas providing cover or shade, and along fence lines 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 production activities occur in Axial Basin in a limited amount, however, there has been a recent renewal of interest in the area and development may be on the rise. Most of this activity has occurred to date on private lands. 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 public 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 4WD 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 and gravel-surfaced roads also occur in the Axial Basin. 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.

3.2.2 Water Quality, Surface

Affected Environment: Surface runoff from the allotments flows primarily into Jesse Gulch and Maudlin Gulch, both tributaries to the Yampa River. Water quality for these tributaries 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 perennial waters within or influenced by any of the allotments considered in the Proposed Action.

Environmental Consequences, Proposed and No Action Alternatives: Grazing activities could result in soil compaction and displacement that increase the likelihood of erosional processes, especially on steeper 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. In addition, the number of livestock in the area could lead to an increase in stream bank trampling. The introduction or increase in amount of livestock feces to waterbodies can lead to water quality degradation by increasing fecal coliform bacteria levels and often leads to algal blooms which increase water temperatures.

The proposed grazing intensity and timing under either alternative is not likely to compromise soil stability and vegetation community health, two important factors in maintaining water quality, given the relatively good (and seemingly improving) condition of the vegetation within the allotments. Surface waters influenced by grazing on the allotment are currently supporting classified uses. Permitting livestock grazing as proposed is consistent with land uses throughout the watershed and is not likely to result in changes to water quality.

Environmental Consequences, Cumulative Impacts: Past, present, and reasonably foreseeable actions that affect surface water quality in the Axial Basin primarily include ranching, fluid

mineral exploration and development, and the infrastructural development necessary to support these two activities.

The Axial Basin watershed drains water primarily to the Yampa River, south and west from the town of Craig, CO. Pollutants that are delivered downstream typically include nitrogen, pathogens, and sediment. The Yampa River through this region is presently listed as impaired by the State of Colorado for total recoverable iron and is on the State's Monitoring and Evaluation list for a suspected sediment problem. Grazing occurs at some level in nearly every portion of the watershed. During snow melt driven high-flow events that occur in the late spring sediment is delivered to the Yampa River from its numerous perennial tributaries. 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 Yampa 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.

Treatment of invasive species within riparian corridors for any of the above land uses would have likely introduced chemicals into streams, but in small amounts relative to the watershed, and dilution and dispersal in these effects may not be detectable in water that is discharged to the Yampa River.

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>

3.3 BIOLOGICAL RESOURCES

3.3.1 Invasive/Non-Native Species

Affected Environment: Invasive plant species and noxious weeds occur within the affected area. Downy brome, Hoary cress (whiteweed), Canada thistle, musk thistle, scotch thistle, perennial pepperweed, halogeton and knapweeds occur within or near this area. The primary invasive weed concern is the presence of white top within the Axial Basin area. 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. This area is also part of an active weed management partnership.

Environmental Consequences, Proposed Action and No 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. Surface disturbance from livestock concentration and human activities associated with grazing operations can increase weed presence. The largest concern in 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 allotments.

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 3,422 acres of BLM land. This increased risk would be an acceptable level as managed under the grazing permit and weed management partnerships.

3.3.2 Migratory Birds

Affected Environment: Plant communities within Jesse Flats allotment are comprised primarily of sagebrush stands with an understory of grasses and forbs. A small amount of juniper woodlands can be found in the far north portion of this allotment. The Cinder Knob and Coal Mountain allotments are comprised of mixed mountain shrublands (oakbrush) with small areas of aspen, pinyon-juniper and sagebrush. 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 and Southern Rockies/Colorado Plateau Regions: Bald eagle, Brewer's sparrow, sage sparrow, sage thrasher and loggerhead shrike. Bald eagles and Brewer's sparrows are also BLM sensitive species and will 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 are several golden eagle nests located in and around the Cinder Knob and Coal Mountain allotments. Golden eagles and other raptors likely forage on all three allotments.

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 change grazing in the Jesse Flats Allotment from a spring and fall schedule to a fall only schedule. Grazing in this allotment would be permitted from early September to early December for about 90 days. Growing season rest would occur every year. The Cinder Knob and Coal Mountain Allotments would each be grazed for about 60-70 days in either the early summer or fall (depending on the year). In even years, the Coal Mountain Allotment would receive rest through most of the growing season and in odd years, the Cinder Knob Allotment would receive rest through most of the growing season. The proposed grazing schedule should improve vegetative conditions for the Jesse Flats Allotment when compared to the previous schedule. The Proposed Action continues the deferred, rotational grazing system for the Cinder Knob and Coal Mountain Allotments which is an appropriate livestock management action for restoring, enhancing, and maintaining native vegetation. The Proposed Action would also maintain habitat for small mammals, which serve as prey species for golden eagles and other raptors. Overall, it is expected that the proposed grazing regime is compatible with maintaining local migratory bird populations.

Environmental Consequences, No Action Alternative: Under the No Action Alternative, the Jesse Flats Allotment would continue to be grazed during the spring and fall. Improvements in

habitat for migratory birds would may not occur as quickly under the No Action Alternative. Current conditions would continue in the Cinder Knob and Coal Mountain Allotments.

Environmental Consequences, No Grazing Alternative: This alternative may lead to increases/improvements in vertical structure, composition and density of herbaceous understory on all three 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.

Cumulative Impacts: The primary use of the allotments and the surrounding area is livestock grazing, recreation (hunting) and surface coal mining. Continuation of grazing would not be expected to add substantially to existing or proposed disturbances. The Proposed Action for the Jesse Flats Allotment should improve vegetative conditions for migratory bird species.

3.3.3 Special Status Animal Species

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

The allotments provide 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 Priority 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 Jesse Flats Allotment is mapped as PPH excluding approximately 225 acres in the southern portion of the allotment that are mapped as PGH. Approximately 350 acres of the Coal Mountain Allotment is mapped as PPH and 630 acres of the Cinder Knob Allotment are also mapped as PPH.

There are no active leks within the boundaries of any of the allotments, however there are several active and inactive leks within a four mile radius of all three allotments. Due to the proximity of active leks, the entirety of the Jesse Flats Allotment is mapped as nesting habitat for this species. The majority of the Cinder Knob Allotment and a small portion of the Coal Mountain Allotment are also mapped as sage-grouse nesting habitat. 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 late 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 Jesse Flats and Cinder Knob Allotments are also mapped as winter habitat for sage-grouse.

The allotments also provide habitat for three additional BLM sensitive species, bald eagles, Columbian sharp-tailed grouse and Brewer's sparrow. There are several bald eagle nests and winter roost sites located along the Yampa River, to the north of the allotments. No nests are located within any of the allotments, however, all three allotments provide winter habitat for this species. In general, bald eagles would utilize the allotments during the winter months when opportunistically feeding on winter killed big game species.

The Jesse Flats Allotment is mapped as ‘overall’ habitat for Columbian sharp-tailed grouse. Sagebrush stands and mixed mountain shrublands in the LSFO provide habitat for this species. There are two active leks within one mile of the allotment boundary. Although the Jesse Flats Allotment is only mapped as ‘overall’ habitat, sharp-tailed grouse may nest and winter on the allotment due to the proximity of the two leks.

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

Since the season of livestock use does not coincide with sage-grouse nesting and breeding on any of the allotments, there would be no direct impacts to nesting sage-grouse. However, livestock grazing can 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 for the Jesse Flats Allotment. Under the Proposed Action, the allotment would receive rest through the entire growing season. Livestock grazing would occur for about 90 days in the fall. In regards to herbaceous understory, new growth would not be subject to grazing pressure in the allotment during the sage-grouse nesting period. However, residual cover for the subsequent nesting season would be impacted during fall grazing. Utilization ranged from slight to light under the current stocking rate. Residual grass cover that was not impacted during fall grazing combined with new growth should provide sufficient nest concealment. Overall, the proposed grazing regime for the Jesse Flats Allotment should be compatible with maintaining healthy habitat for greater sage-grouse.

The Proposed Action continues the deferred, rotational grazing system for the Cinder Knob and Coal Mountain Allotments. This is an appropriate livestock management action for restoring, enhancing, and maintaining native vegetation. Although both of these allotments are mapped as sage-grouse habitat, this habitat is very marginal due to the small size of sagebrush stands and the amount of mixed mountain shrublands (including oakbrush) in the allotments. Continued grazing in the allotments would not be expected to impact the usability of this habitat.

Bald eagle

None of the bald eagle nests are located within the allotments, however, this species likely hunts 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 three allotments would not impact bald eagle nesting or hunting/scavenging along the Yampa River as these activities occur outside the allotment boundaries. The Proposed Action should improve vegetative conditions in the Jesse Flats Allotment and maintain conditions in the other two allotments, which should continue to provide suitable habitat for upland prey species.

Overall this alternative should be compatible with maintaining healthy habitat for bald eagles and prey species.

Columbian sharp-tailed grouse

Impact to Columbian sharp-tailed grouse and their habitat would be similar to impacts described above for greater sage-grouse.

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 schedules incorporate rotation, deferment and growing season rest, which 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, the Jesse Flats Allotment would receive grazing pressure during both the spring and fall. This would impact both residual and new growth grass cover for nest concealment for greater sage-grouse.

Environmental Consequences, No Grazing Alternative: This alternative would lead to increases/improvements in vertical structure, composition and density of herbaceous understory on the 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). Improvements in herbaceous understory (height and density) would enhance nesting conditions for greater sage-grouse throughout the allotments as a whole.

Environmental Consequences, Cumulative Impacts: The primary use of the allotments and the surrounding area is livestock grazing, recreation (hunting) and surface coal mining. Continuation of grazing would not be expected to add substantially to existing or proposed disturbances. The Proposed Action may improve sage-grouse nesting habitat by eliminating spring grazing pressure, resulting in increased herbaceous cover for nest concealment.

3.3.4 Upland Vegetation

Affected Environment: Dominant vegetation communities within the allotments are sagebrush grassland communities and mountain shrub communities.

Environmental Consequences Proposed Action: Eliminating spring use on the Jesse Flat Allotment would have beneficial impacts to native vegetation. By removing domestic livestock defoliation during the reproductive and growing season of herbaceous species allows native grasses and forbs to complete their life cycle and naturally compete with non-native or undesirable species that have become established. The proposed season of use also is at the end

of seed production period for sagebrush with the majority of seed being dropped prior to livestock turn out, livestock hoof action would facilitate seed incorporation into the soil and better spring germination for sagebrush species. The Proposed Action continues the deferred, rotational grazing system for the Cinder Knob and Coal Mtn. Allotments which is an appropriate livestock management action for restoring, enhancing, and maintaining native vegetation.

Environmental Consequences, No Action Alternative: Currently the Jesse Flat and Cinder Knob Allotments are not meeting the Land Health Standard for upland vegetation with current authorized use not being the causal factor. Current conditions would continue.

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.

BLM records indicate that the lands within the allotments have been grazed by livestock since the 1930'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. Lack of natural disturbance and vegetation treatments along with a history of livestock grazing have produced some areas that are not at the desired plant community. Continued proactive management and vegetative treatments would help to move plant communities to more desirable levels.

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 in the Axial Basin, approval of the Proposed Action would not cause undue damage to upland vegetation.

3.3.5 Wetlands and Riparian Zones

Affected Environment: Riparian resources within each allotment are described below. Where data is available, resources were last assessed in 1999.

Coal Mountain Allotment (#04420)

Condition Assessment	Wetlands/Springs (acres)	Streams (miles)
Proper Functioning Condition	BLM Spring #106-30: 0.01	NA
Functioning At Risk – condition improving	BLM Spring #106-43: 0.01	Jesse Gulch Reach 7: 0.4 miles
Functioning At Risk – no trend in condition	NA	Jesse Gulch Reach 6: 0.9 miles
TOTAL	0.02 acres	1.3 miles

Jesse Flats Allotment (#04417) No lentic resources identified on public lands within the allotment.

Condition Assessment	Streams (miles)
Functioning At Risk – no trend in condition	Maudlin Gulch Reaches 5A: 1.1 Maudlin Gulch Reaches 5B: 0.9 Maudlin Gulch Reaches 6: 0.2
Not Assessed	Jesse Gulch Reach 5: 0.1
TOTAL	2.3 miles

Cinder Knob Allotment (#04419): No lotic resources present on public lands within the allotment.

Condition Assessment	Wetlands/Springs (acres)
Not Assessed	BLM Spring #106-10: 0.01 BLM Spring #106-11: 0.01 BLM Spring #106-13: 0.01
TOTAL	0.03 acres

Environmental Consequences, Proposed Action: As of the most recent assessment in 1999, riparian areas (where assessed) are meeting standards. In the Jesse Flats Allotment, Maudlin and Jesse Gulches would be alleviated of all growing season grazing, which could increase vigor and reproduction of riparian vegetation over time, especially of cool season species. Cinder Knob and Coal Mountain allotments would continue to receive summer and late growing season use, though livestock numbers present at one time is reduced and the season of use is extended into early fall beyond the growing season. This may impact warm season species growth and reproduction ability, as well as lead to livestock concentration in and around riparian areas as water availability diminishes over the course of the summer. There is also the possibility of adverse effects to any aquatic life if damage to herbaceous vegetation leads to a reduction in canopy and instream cover that influences water temperature and availability of any preferred bankside or edge habitat. Changes to the channel configuration could increase sediment delivery and alter substrate composition that macroinvertebrates and native aquatic species, if present, prefer.

Environmental Consequences, No Action Alternative: Under existing grazing management, riparian resource condition could be expected to remain the same or perhaps decline over time. In the Jesse Flats allotment, Maudlin and Jesse Gulches would continue to receive spring grazing pressure, which could reduce vigor and reproduction of riparian vegetation over time, especially of cool season species. Cinder Knob and Coal Mountain allotments would continue to receive more intensive summer and late growing season use, resulting in similar conditions as described above.

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

The Axial Basin is characterized by relatively low gradient perennial and ephemeral drainages, many of which have parallel dirt or gravel roads, drain into the Yampa 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 adjacent to any riparian areas in the watershed. The portion of sediment that is delivered to the drainages and therefore the Yampa 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. The presence of roads parallel to drainages can restrict natural lateral movement of waterways over the long term by armoring and/or straightening banks and reducing any floodplain capability to moderate overbank flooding.

Public lands within basin occur south of the river, are intermixed with private and State lands, and are included in several grazing allotments. Where land health/riparian assessments are available, riparian standards are mostly being met. Roads adjacent to the floodplain or the presence of invasive species are usually cited as compromising riparian health in these instances. Livestock use of riparian areas on public lands is light to moderate, as many private portions of the allotments include water developments that help to keep extended livestock use away from these sensitive areas. Riparian condition on private lands within the watershed is not known.

3.3.6 Wildlife, Terrestrial

Affected Environment: Plant communities within Jesse Flats Allotment are comprised primarily of sagebrush stands with an understory of grasses and forbs. A small amount of juniper woodlands can be found in the far north portion of this allotment. The Cinder Knob and Coal Mountain allotments are comprised of mixed mountain shrublands (oakbrush) with small areas of aspen, pinyon-juniper and sagebrush. 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 year round habitat for elk, mule deer and pronghorn. Lower elevations within the allotments provide important winter habitat for elk and mule deer.

Environmental Consequences: The grazing system described in the Proposed Action incorporates deferment and rotation, which allows for ample growing season rest and adequate plant recovery periods. The Proposed Action should provide an overall benefit to vegetation throughout the allotment when compared to the current grazing system in the Jesse Flats Allotment. The Proposed Action continues the deferred, rotational grazing system for the Cinder Knob and Coal Mtn. Allotments which is an appropriate livestock management action for restoring, enhancing, and maintaining native vegetation. Cattle would focus on herbaceous understory in all three allotments and would not be in competition with browsing wildlife species. Cattle grazing would primarily overlap with the diets of elk and other grazers. The latest utilization showed grazing at a slight to light rate. Overall, it is expected that the proposed grazing regime is compatible with maintaining wildlife habitat.

Environmental Consequences, No Action Alternative: Under this alternative, both fall and spring grazing would continue on the Jesse Flats Allotment. Improvements in vegetative conditions would not be expected. Current conditions on the Coal Mountain and Cinder Knob allotments would be expected to continue.

Environmental Consequences, No Grazing Alternative: This alternative would lead to increases/improvements in vertical structure, composition and density of herbaceous understory on the 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). Overall, wildlife species that would receive the most benefit would be grazing species and species that use herbaceous understory for hiding cover and nest concealment.

Environmental Consequences, Cumulative Impacts: Cumulative impacts to terrestrial wildlife would be similar to cumulative impacts described in the Migratory Bird section of this EA.

3.4 HERITAGE RESOURCES AND HUMAN ENVIRONMENT

3.4.1 Cultural Resources

Affected Environment: The BLM's authorization of grazing permits is considered an undertaking subject to compliance with Section 106 of the National Historic Preservation Act (NHPA). The BLM has the legal responsibility to consider the effects of its actions on cultural resources located on federal land. BLM Manual 8100 Series; the Colorado State Protocol; and BLM Colorado Handbook of Guidelines and Procedures for Identification, Evaluation, and Mitigation of Cultural Resources provide guidance on Section 106 compliance requirements to meet appropriate cultural resource standards. Section 106 of NHPA requires federal agencies to: 1) inventory cultural resources within federal undertaking Areas of Potential Effect (APEs), 2) evaluate the significance of cultural resources by determining National Register of Historic Places (NRHP) eligibility and, 3) consult with applicable federal, state, and tribal entities regarding inventory results, National Register eligibility determinations, and proposed methods to avoid or mitigate potential impacts to eligible sites.

In Colorado, the BLM's NHPA obligations are carried out under a Programmatic Agreement (PA) among the BLM, the Advisory Council on Historic Preservation, and the State Historic Preservation Officer (SHPO). Should an undertaking be determined to have "no effect" or "no adverse effect" by the BLM-LSFO archaeologist, the undertaking may proceed under the terms and conditions of the PA. If the undertaking is determined to have "adverse effects," project-specific consultation is then initiated with the SHPO. Additionally, cultural resources assessment of grazing allotments follows the procedures and guidance of the Colorado BLM State Director as provided in BLM Instructional Memorandums (IMs) IM-WO-99-039, IM-CO-99-007, IM-CO-99-019, and IM CO-2002-29.

The cultural history of northwestern Colorado is presented among several recent context studies. Reed and Metcalf's (1999) study of the Northern Colorado River Basin provides applicable prehistoric and historic overviews as compiled by Frederic J. Athearn (1982) and Michael B. Husband (1984). A historical archaeology context also was prepared for the State of Colorado by Church et al. (2007). Furthermore, significant cultural resources administered by the BLM-LSFO are provided in a Class 1 (archival) overview (McDonald and Metcalf 2006), in addition to valuable contextual data provided by synthesis reports of archaeological investigations

conducted for a series of large pipeline projects in the BLM-LSFO management area (Metcalf and Reed 2011; Rhode and others 2010; Reed and Metcalf 2009).

A Class 1 cultural resources assessment was completed for the Jesse Flats, Cinder Knob, and Coal Mountain Allotments (collectively, the subject allotments) by BLM-LSFO Archaeologist Kim Ryan on May 21, 2013. Data reviewed were obtained from BLM-LSFO cultural program project files, site reports, and atlases, in addition to BLM-maintained General Land Office (GLO) plats and patent records. Electronic files also were reviewed through online cultural resource databases including *Compass* (maintained by the Colorado Office of Archaeology and Historic Preservation) and the National Register Information System (NRIS; maintained by the National Park Service). The results of archival research are summarized in the following table; data provided are focused on BLM-administered lands within the specified allotments, and based on information available from the above-referenced sources.

Allotment No. (BLM acres)	BLM Acres Previously Surveyed	BLM Acres <u>NOT</u> Surveyed	Percent of BLM Acres Inventoried Within Allotment	Identified NRHP- Eligible or Needs Data Sites	Estimated Sites Within Allotment*	Estimated NRHP- Eligible or Needs Data Sites Within Allotment*
04417 (980)	0	980	0	0	30	9
04419 (1,178)	6.6	1,171.4	0.56	0	35	11
04420 (1,264)	18.1	1,245.9	1.43	0	38	11

*Estimated site density as based on existing inventory data. Estimates may be revised (up or down) by future inventories and/or consultations.

Background research shows few cultural resource surveys and no sites as documented for BLM-administered lands within subject allotments. Estimating the amount of cultural resources present within the subject allotments is difficult because of the lack of prior survey within and adjacent to the APE.

Further review of historic-age GLO plats shows evidence of possible features within the subject allotments such as roads and fence lines, however, such features are not likely to be considered significant (or NRHP-eligible). Moreover, such features—mapped or otherwise—serve as historic evidence of long-term grazing within the allotments and surrounding vicinity.

Based on the available data for the allotments and surrounding area, it is likely 103 cultural resource sites (and/or features) exist within the subject allotments, of which approximately 31 may be evaluated as NRHP-eligible. As such, cultural resources inventory for a portion of BLM-administered lands within the subject allotments should be conducted within 10 years of permit issuance. Subsequent inventory should focus on areas of livestock concentration, and where historic-age maps indicate potential for cultural resources. If, as a result of new assessment, NRHP-eligible sites or features are found to exhibit potential for or actively occurring impacts, mitigation measures will be identified and implemented in consultation among the BLM-LSFO and SHPO.

Environmental Consequences, Proposed Action: Direct impacts to historic properties where livestock concentrate may include trampling, chiseling, and churning of site soils, cultural features and artifacts, artifact breakage, and impacts from standing, leaning, or rubbing against

historic structures, above-ground cultural features and/or rock art (Broadhead 2001; Osbourn et al. 1987). Indirect impacts from livestock concentrations may include increased soil erosion and gullying, in addition to increased potential for unlawful artifact collection and/or vandalism of cultural resources. Other indirect impacts may include degradation of the historic setting, thereby detracting from the view-shed and historic feeling of nearby cultural resource sites.

Environmental Consequences, No Action Alternative: Because the no action alternative would continue livestock grazing under the current permit terms and conditions, there are no substantive differences in the potential impacts and/or environmental consequences to cultural resources as those associated with the proposed action.

Environmental Consequences, No Grazing Alternative: While a no grazing alternative alleviates potential damage from livestock activities, cultural resources are constantly subject to site formation processes or events after creation (Binford 1981; Schiffer 1987). These processes can be both cultural and natural, and may occur instantly or over thousands of years. Cultural formation processes include activities directly or indirectly caused by humans. Natural processes include chemical, physical, and biological processes of the natural environment that impinge upon and/or modify cultural materials.

Environmental Consequences, Cumulative Impacts: Cumulative impacts to historic properties may occur within or adjacent to the allotment, including areas within the allotment view-shed. However, the region has been historically grazed (for more than 50 years) and the intensity of livestock use has generally decreased over time. Any extant historic property within or adjacent to the subject allotments—and where potential for impacts exist—are more likely to have sustained impacts as a result of prior livestock/grazing activities or other historic land-use activities (e.g., mining, agriculture, etc.). Although continued livestock use may not pose additional, direct impacts in areas where prior grazing was intensive, secondary effects such as increased erosion could cause long-term, irreversible effects to historic properties, where present. Livestock use also has increased ground visibility over time as a result of increased erosion and decreased ground cover, and by the installation and/or removal of range improvements such as stock ponds and pipelines. These factors may result in the exposure of cultural deposits that would otherwise remain obscured or buried, thereby raising the potential for illegal collection of cultural materials.

Mitigation Measures, Proposed Action: Cultural resources survey for a portion of BLM-administered lands within each of the subject allotments should occur within 10 years of permit issuance, with efforts focused on identified areas of livestock concentration (e.g., springs and/or water developments, gates, chutes, etc.). Any cultural resources identified as NRHP-eligible also should be assessed for potential livestock impacts. Continued livestock use of the area is appropriate, provided that any identified impacts to NRHP-eligible resources are mitigated. Should the BLM-LSFO determine that livestock grazing is having an adverse effect on historic properties, mitigation will be developed in coordination with the SHPO.

References

Athearn, Frederic J.

1982 *An Isolated Empire: A History of Northwest Colorado*. Cultural Resource Series No. 2. Colorado Bureau of Land Management, Denver.

- Binford, Lewis R.
1981 Behavioral archaeology and the "Pompeii Premise". *Journal of Anthropological Research* 37(3):195-208.
- Broadhead, Wade
2001 *Brief Synopsis of Experiments Concerning Effects of Grazing on Archaeological Sites*. Bureau of Land Management-Gunnison Field Office, Gunnison, Colorado.
- Church, Minette C ., Steven G. Baker, Bonnie J. Clark, Richard f. Carrillo, Jonathan C. Horn, Carl D. Spath, David R. Guilfoyle, and E. Steve Cassells
2007 *Colorado History: A Context for Historical Archaeology*. Colorado Council of Professional Archaeologists, Denver.
- Husband, Michael B.
1984 *Plateau Country Historic Context*. Office of Archaeology and Historic Preservation, Colorado State Historic Preservation Office, Denver.
- Metcalf, Michael D and Aland D. Reed
2011 *Synthesis of Archaeological Data Compiled for The Piceance Basin Expansion, Rockies Express Pipeline, and Uinta Basin Lateral Projects Moffat and Rio Blanco Counties, Colorado and Sweetwater County, Wyoming*. Volume 2. Metcalf Archaeological Consultants, Inc., Eagle, Colorado.
- McDonald Kae and Michael Metcalf
2006 *Regional Class I Overview of Cultural Resources for the BLM Little Snake Field Office*. Metcalf Archaeological Consultants, Inc. Eagle, Colorado.
- Osborn, Alan, Susan Vetter, Ralph Hartley , Laurie Walsh, Jesslyn Brown
1987 *Impacts of Domestic Livestock Grazing in the Archaeological Resources of Capitol Reef National Park, Utah. Occasional Studies in Anthropology No. 20*. Midwest Archaeological Center, Lincoln, Nebraska.
- Reed, Alan D. and Michael Metcalf
1999 *Colorado Prehistory: A Context for the Northern Colorado River Basin*. Colorado Council of Professional Archaeologists, Denver.
- 2009 *Synthesis of Archaeological Data Compiled for The Piceance Basin Expansion, Rockies Express Pipeline, and Uinta Basin Lateral Projects Moffat and Rio Blanco Counties, Colorado and Sweetwater County, Wyoming*. Volume 1. Alpine Archaeological Consultants, Inc., Montrose, Colorado.
- Rhode, David, Lisbeth A. Louderback, David Madsen, and Michael D. Metcalf
2010 *Synthesis of Archaeological Data Compiled for The Piceance Basin Expansion, Rockies Express Pipeline, and Uinta Basin Lateral Projects Moffat and Rio Blanco Counties, Colorado and Sweetwater County, Wyoming*. Volume 3. Metcalf Archaeological Consultants, Inc., Eagle, Colorado.
- Schiffer, Michael B.
1987 *Formation Processes of the Archaeological Record*. University of New Mexico Press, Albuquerque.

3.4.2 Native American Religious Concerns

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

American Indian religious concerns are legislatively considered under several acts and Executive Orders including the American Indian Religious Freedom Act, the Native American Graves Environmental Assessment Protection and Repatriation Act, and Executive Order 13007 (Indian Sacred Sites). In sum, and in concert with other provisions such as those found in the NHPA and

Archaeological Resources Protection Act, these acts and orders require the federal government to carefully and proactively consider the traditional and religious values of Native American culture and lifeways to ensure, to the greatest degree possible, that access to sacred sites, treatment of human remains, the possession of sacred items, conduct of traditional religious practices, and the preservation of important cultural properties are not unduly infringed upon. In some cases, these concerns are directly related to “historic properties” and “archaeological resources.” Likewise, elements of the landscape without archaeological or human material remains also may be involved. Identification of Native American concerns is normally completed during land-use planning efforts, reference to existing studies, or through direct consultation with tribes.

Consultation for the type of proposed undertaking is consulted on annually with the aforementioned tribes. Letters were sent to the tribes in the spring of 2012 describing general range permits and projects as planned for the 2013 fiscal year. No comments were received. Project-specific consultation is typically not conducted unless activities are proposed within a previously identified area of tribal concern or if an undertaking may involve culturally significant items, sites and/or landscapes.

Environmental Consequences, Proposed Action: Items, sites, or landscapes determined as culturally significant to the tribes can be directly or indirectly impacted. Direct impacts may include, but are not limited to, physical damage, removal of objects or items, and activities construed as disrespectful (e.g., installation of portable toilets, holding pens, or water control features near a sacred site). Indirect impacts may include, but are not limited to, prevention of access (hindering the performance of traditional ceremonies and rituals), increased visitation of an area, and potential loss of integrity related to religious feelings and associations.

There are no known items, sites, or landscapes determined as culturally significant to the tribes within or immediately adjacent to the permit areas. The proposed action does not prevent access to any known sacred sites, prevent the possession of sacred objects, or interfere with the performance of traditional ceremonies and/or rituals.

Environmental Consequences, No Action Alternative: Because this alternative would continue livestock grazing under the current permit terms and conditions, there are no substantive differences in the potential impacts and/or environmental consequences to culturally significant items, sites, and landscapes than those associated with the proposed action.

Environmental Consequences, No Grazing Alternative: None

Environmental Consequences, Cumulative Impacts: Continued livestock grazing has the additive effect of altering the landscape from that ancestrally known by the tribes. Although specific, culturally sensitive sites have not been identified within the subject allotments or immediate vicinity, the overarching concern is for cumulative effects that modern culture and/or developments cause upon the landscape.

Mitigation Measures, Proposed Action: There are no known adverse impacts to any culturally significant items, sites, or landscapes. If new information is provided by consulting tribes, additional or edited terms and conditions for mitigation may be required to protect resource values.

CHAPTER 4– PUBLIC LAND HEALTH STANDARDS

4.1 INTRODUCTION

The Jesse Flats #04417, Cinder Knob #04419, and Coal Mountain #04420 Allotments were assessed for compliance with the Colorado Standards of Public Land Health by an interdisciplinary team consisting of three Rangeland Management Specialist one Wildlife Biologist and one Natural Resource Specialist on May 31 and June 1, 2007.

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: Soil conditions in all three allotments were meeting the upland soils standard. Soils within the allotments are predominantly loam and sand based.

Proposed Action: This standard would continue to be met and soil form and function is likely to improve under this alternative. Eliminating growing season use on the Jesse Flat Allotment would continue to facilitate the upward trend in vegetation condition, thereby having an indirect beneficial effect to soil community health. The Proposed Action continues the deferred, rotational grazing system for the Cinder Knob and Coal Mountain allotments, which also facilitates the recovery and enhancement of native vegetation that would, in turn, improve soil stability by protecting the soil surface from erosion and increase plant litter that facilitates water permeability and aids in soil moisture retention.

No Action: While soil standards are currently being met in the three allotments, current grazing management may not promote the improvement in the health and vigor of native, perennial vegetation that is important for maintaining soil health and stability that the Proposed Alternative aims to achieve. A continuation of this alternative may lead to a decline of native vegetation that can indirectly result in the decline of soils to a point at which land health standards may not 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: All riparian resources, where assessed, are meeting currently meeting public land health standard for riparian systems as of the most recent assessment in 1999.

Proposed Action: This standard would continue to be met under this alternative and may lead to overall improvement in riparian condition over time. This alternative is expected to favor riparian resources by eliminating growing season pressure on all vegetation in the Jesse Flats allotment and reducing stocking rates and extending the grazing season into the dormant period for the Cinder Knob and Coal Mountain allotments.

No Action Alternative: This standard would continue to be met under this alternative, but may lead to a general decline in riparian condition over time. This alternative allows for a continuation of spring grazing in the Jesse Flats allotment, which may reduce vegetative vigor and reproductive success of early season species. Summer grazing in the Cinder Knob and Coal Mountain allotments at the same stocking rates may have similar effects on warm season vegetation.

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 not being met in portions of the Jesse Flats and Cinder Knob Allotments. Some areas in the Jesse Flats Allotment have an overabundance of cheatgrass and some areas in the Cinder Knob Allotment have decadent stands of big sagebrush with closing canopies that are decreasing the abundance of perennial herbaceous species. While the closing-canopy sagebrush coupled with decreases in herbaceous plant diversity is related to a lack of natural disturbance in those sagebrush-dominated communities, the cheatgrass abundance is related to historic livestock management.

The Coal Mountain Allotment is currently meeting this standard with adequate diversity, vigor, and abundance of desirable species.

Proposed Action: This alternative would allow native vegetation on the Jesse Flat Allotment to complete a full reproductive and growing cycle every year and naturally compete with cheatgrass without livestock defoliation influences. This would help to move this standard toward being met. Current and Proposed livestock management on the Cinder Knob Allotment have no influence on the decadent stands of sagebrush only natural disturbance or planned treatments would help to alleviate this condition.

Overall, the three allotments are meeting this standard for animal communities. Cheatgrass on the Jesse Flats and Cinder Knob Allotments are degrading habitat quality in some areas. The Proposed Action would not preclude this standard from being met.

No Action Alternative: This alternative would maintain current conditions relative to this standard. Standards would continue not to be met on the Jesse Flat and Cinder Knob Allotment.

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: There are no federally listed threatened, endangered, or BLM sensitive plant species populations identified within these allotments.

The three allotments provide habitat for four BLM sensitive species, greater sage-grouse, bald eagle, Brewer's sparrow and Columbian sharp-tailed grouse. According to the latest land health evaluation, the allotments were meeting this standard. However, habitat quality may be degraded in some areas due to weed infestations, primarily cheatgrass. This standard should continue to be met under all alternatives.

4.2.5 Standard 5 The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will 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 within or influenced by any of the allotments considered in the proposed action. Surface waters influenced by the allotment are currently supporting classified uses for agricultural, recreational, and aquatic life purposes.

Proposed and No Action Alternatives: The proposed grazing intensity and timing under either alternative is not likely to compromise soil stability and vegetation community health, two important factors in maintaining water quality, given the relatively good (and seemingly improving) condition of the vegetation within the allotments.

SIGNATURE OF PREPARER:

SIGNATURE OF ENVIRONMENTAL REVIEWER:

DATE SIGNED:

Finding of No Significant Impact
DOI-BLM-CO-N010-2013-0041-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 will 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.

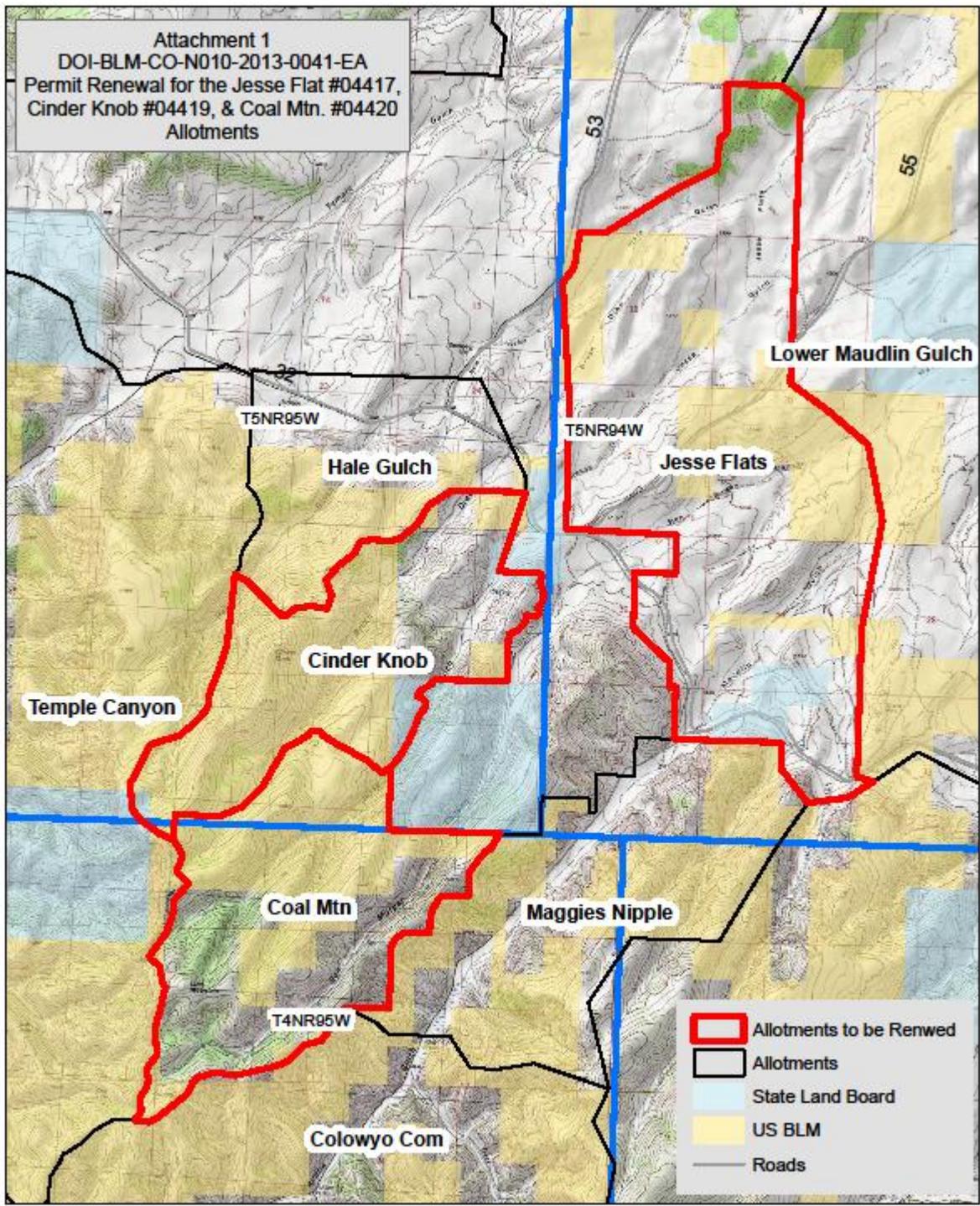
3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas

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 15, 2010 to determine the level of public interest, concern, and resource conditions on the grazing authorizations that were up for renewal in FY 2012. 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.

Attachment 1
DOI-BLM-CO-N010-2013-0041-EA
Permit Renewal for the Jesse Flat #04417,
Cinder Knob #04419, & Coal Mtn. #04420
Allotments



0 0.5 1 1.5 2 Miles

ATTACHMENT #2
DOI-BLM-CO-N010-2013-0041-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 willful 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) will 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 will 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 will 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 placed at least one-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 will 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 will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the operator will 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 will 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.

