

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

**Environmental Assessment
for the Grazing Permit Renewal of the N.E. Spear,
W. Logan Wash, and Logan End Common Allotments.**

Grand Junction Field Office
2815 H Road
Grand Junction, Colorado 81506

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The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people for all times. Management is based on the principles of multiple-use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation; rangelands; timber; minerals; watershed; fish and wildlife; wilderness; air; and scenic, scientific and cultural values.

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CHAPTER 1 – INTRODUCTION

1.1 IDENTIFYING INFORMATION

BACKGROUND:

This environmental assessment (EA) has been prepared by the BLM to analyze the issuance of a 10 year grazing permit for grazing use on the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) Allotments. The previous ten year permit expired on September 30, 2013 and was subsequently renewed under the Appropriations Act of 2013. A livestock producer (permittee/lessee) must hold a grazing permit/lease to graze livestock on public land. Grazing Permits specify all authorized use including livestock grazing, suspended use, class of animal, total number of AUMs, season of use, percent public land, and the area authorized for grazing use (CFR §4100.0-5).

The NE Spears (06718) allotment is located seven miles north of De Beque, Colorado in Garfield county and consists of approximately 6,442 acres of public land and 540 private controlled acres associated with 517 AUM's (animal unit months). The grazing dates are both spring and fall, however past permittees primarily used the spring schedule. Precipitation ranges from eight to ten inches. Elevation ranges from 5,400 ft. at the lower end of the allotment to 7,000 ft. at the upper end of the allotment. The vegetation is primarily pinon-juniper foothills with sagebrush, shadscale and grassland on the benches.

The West Logan Wash (06752) allotment is located six miles north of De Beque, Colorado in Garfield County. The allotment consists of approximately 428 acres of public land associated with 28 AUM's (animal unit months). This allotment has a weeklong grazing period and is primarily used for a trailing/crossing point when moving cattle to and from other BLM allotments and private property. Precipitation ranges from ten to twelve inches. Elevation ranges from 5,200 ft. at the lower end of the allotment to 5,600 ft. at the upper end of the allotment. The vegetation is primarily pinon-juniper on the side hills with sagebrush on the bottoms and benches.

The Logan End Common (06732) Allotment is located seven miles north of De Beque Colorado, in Garfield County. The allotment consists of approximately 1,670 acres of public land associated with 86 AUMs (animal unit months). The grazing schedule is a summer period and much of the allotment is private property (34% BLM, 66% Private). Precipitation ranges from ten to fourteen inches. Elevation ranges from 8,000 ft. at the lower end of the allotment to 8,700 ft. at the upper end of the allotment. The vegetation is primarily Aspen, mountain shrub, sagebrush and conifer.

Grazing allotments within the GJFO have been placed in one of three management categories that define the intensity of management: (1) Improve, (2) Maintain and (3) Custodial. These categories broadly define rangeland management objectives in response to an analysis of an allotment's resource characteristics, potential, opportunities, issues, and needs. Both the N.E. Spear (06718), and Logan End Common (06732) allotments are in the maintain category, meaning there are no inherent resource condition concerns or resource use conflicts. West Logan Wash (06752) in the improve category meaning there is usually resource concerns and more intensive management may be needed.

CASEFILE/PROJECT NUMBER: Grazing Permit #0504677

PROJECT NAME: Grazing Permit Renewal for the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) Allotments.

PLANNING UNIT: Grand Junction Field Office

APPLICANT: Grazing Permittee

1.2 PROJECT LOCATION AND LEGAL DESCRIPTION

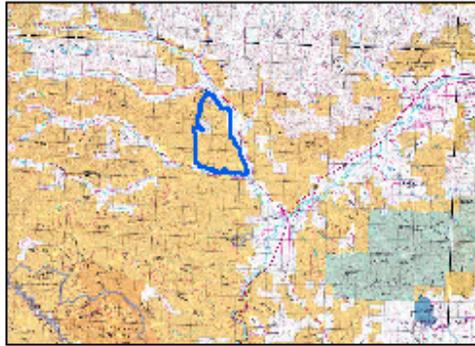
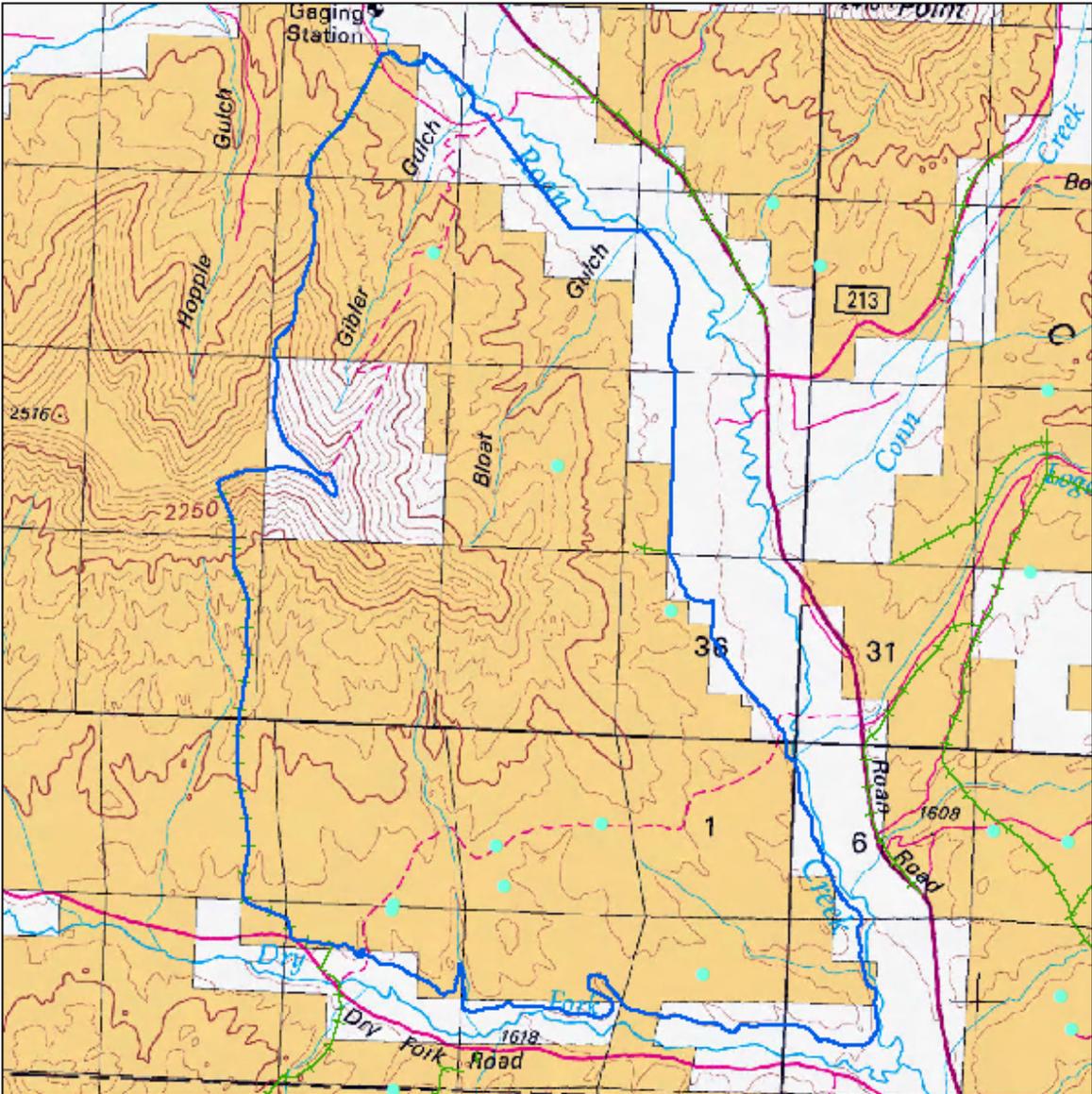
LEGAL DESCRIPTION:

N.E. Spear - T7S and T8S, R98W 6th PM

West Logan Wash - T7S, R97W, secs. 29, 30, 31, and 32, 6th PM

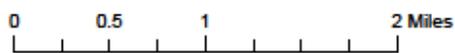
Logan End Common - T7S, R 97W, sec 13and 24, 6th PM

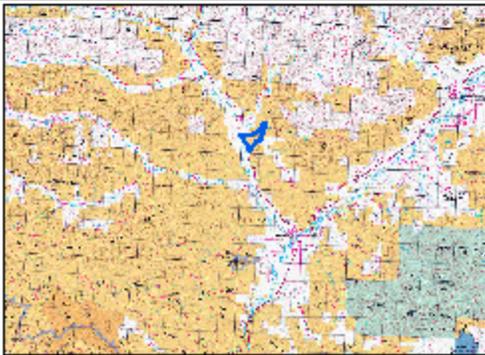
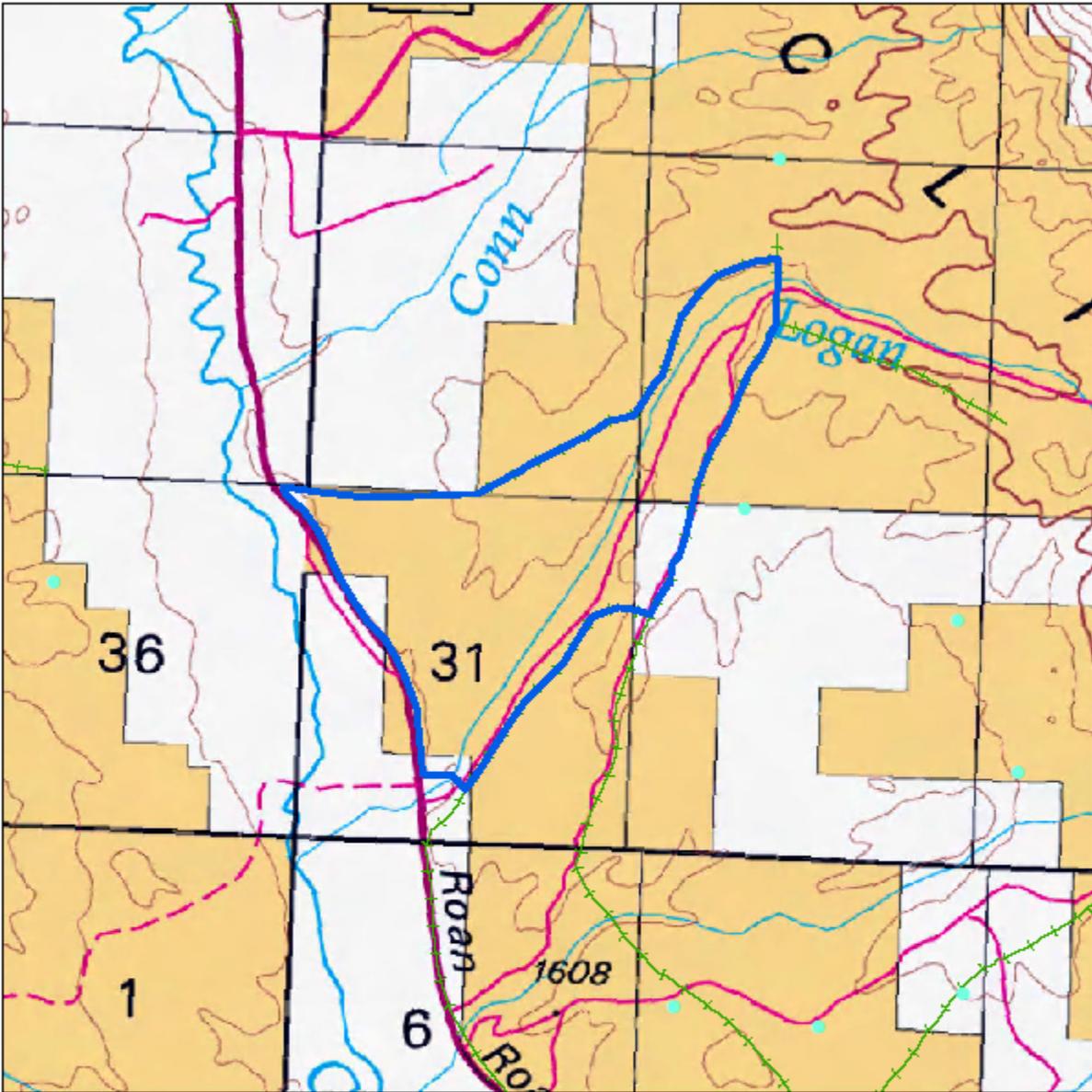
Allotment maps located on following page.



**North East Spear Allotment
Permit Renewal Map**

- Allotment Boundary
- Water Sources
- + + + Fences

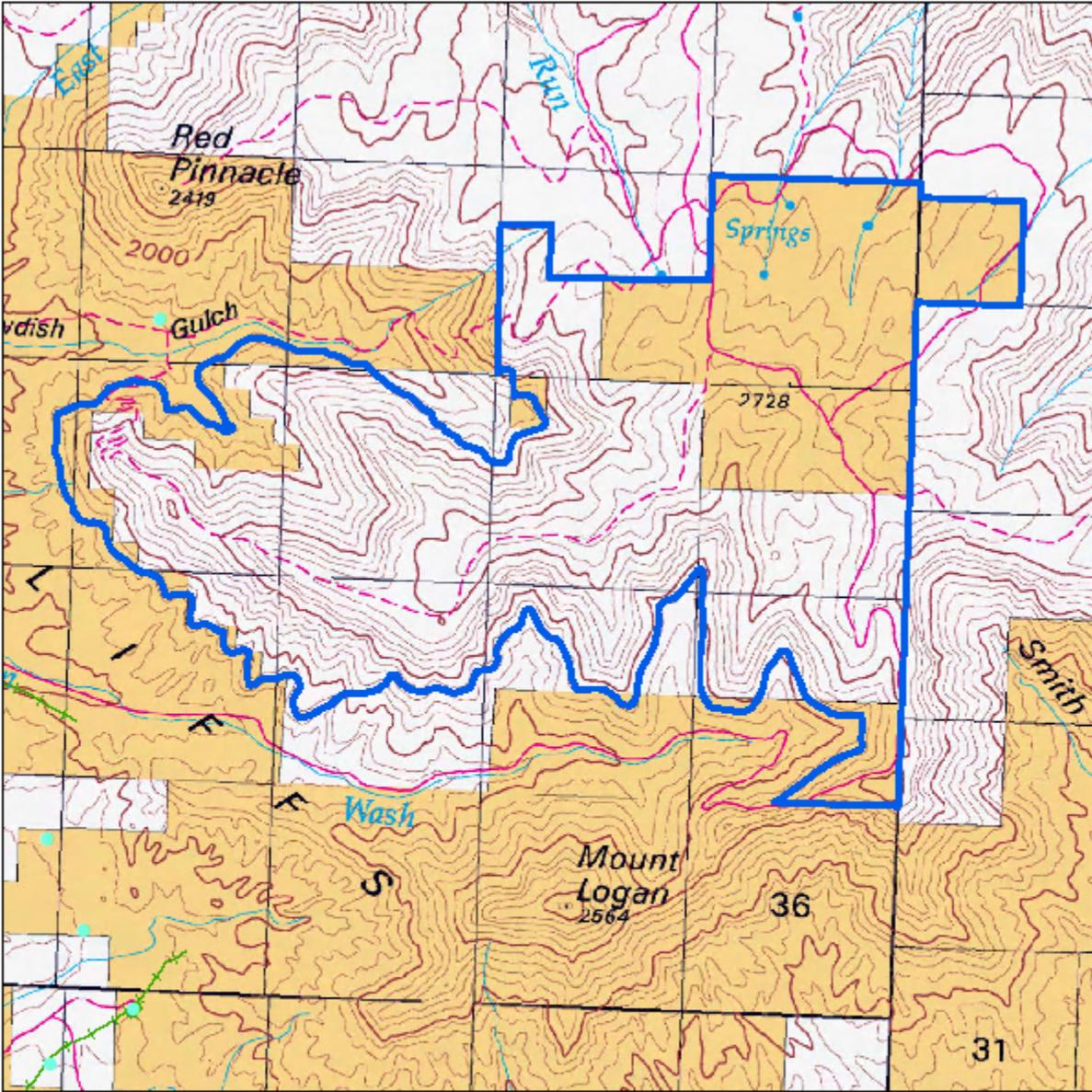




**West Logan Wash Allotment
Permit Renewal Map**

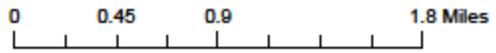
- Allotment Boundary
- Water Sources
- - - Fences





**Logan End Common Allotment
Permit Renewal Map**

- Allotment Boundary
- Water Sources
- + + + Fences



1.3 PURPOSE AND NEED

The purpose of the proposed action is to allow grazing on public lands in a responsible manner that is compatible with other resource uses and objectives. The purpose can be met by fully processing the renewal of the qualified applicant's grazing permit preference for the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) allotments.

The need for the action is established by the BLM's responsibility under the Federal Land Policy Management Act (FLPMA) and the Taylor Grazing Act, to respond to an applicant's request for a grazing authorization on public land. The proposed action would provide the opportunity for the continuation of livestock grazing through the issuance of a grazing permit for the permittee on mentioned allotments. In order to graze livestock on public land, the livestock permittee must hold a valid grazing permit. The need for this action is to ensure that grazing is authorized by a valid grazing permit and is compatible with Standards for Public Land Health, other resource uses and objectives, and in compliance with grazing regulations under 43 CFR §4110.1(a)(1).

1.4 PUBLIC PARTICIPATION

1.4.1 Public Scoping: Scoping, by posting this project on the Grand Junction Field Office NEPA website and personal meetings with implicated parties was the primary mechanism used by the BLM to invite public involvement. No comments were received.

Issues Identified: No issues were identified during public scoping.

The authorized grazing representative had meetings about proposed action changes with permittees. According to 43 CFR §4130.2 (b), "The authorized officer shall consult, cooperate and coordinate with affected permittees or lessees, the state having lands or responsible for managing resources within the area, and the interested public prior to the issuance or renewal of grazing permits or leases." No comments or concerns were brought up at that point.

1.4.2 Internal Scoping: Maps of the parcel and description of the proposed action and purpose and need were distributed to the GJFO Interdisciplinary Team (IDT) and discussed at IDT meetings. Documentation of which resources would be impacted based on internal scoping is included in Table 3.1.

Issues Identified:

Issues identified within internal scoping efforts include grazing activities that occur in or near known occupied habitat for the threatened species: Colorado hookless cactus (*Sclerocactus glaucus*), De Beque phacelia (*Phacelia submutica*), and designated critical habitat for the De Beque phacelia. Some perennial vegetation issues and concerns were also brought forward for the N.E. Spear and West Logan Wash allotments.

Threatened and Endangered plants and native perennial vegetation are the main resource concerns driving changes in the proposed action from the existing permitted activities. The concerns identified during scoping regarding rangeland health and sensitive plants are addressed in the analysis of the proposed action, and also in proposed changes to the grazing permit.

1.5 DECISION TO BE MADE

The BLM will decide whether to approve the proposed grazing permit renewal for N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) allotments based on the analysis contained in this Environmental Assessment (EA). This EA will analyze impacts to resources from cattle grazing on the allotments mentioned above. The BLM may choose to accept the Proposed Action, modify the proposed action, accept an alternative to the proposed action or reject the application in whole. The finding associated with this EA may not constitute the final approval for the proposed action.

The BLM will determine if the applicant has a satisfactory record of performance in accordance with 43 CFR §4110.1(b) (1).

CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

The purpose of this chapter is to provide information on the Proposed Action and Alternatives. The BLM has requested changes to the grazing use in the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) in order to graze livestock on public lands in a responsible manner. These changes are included in the proposed action. Alternatives considered but not analyzed in detail are also discussed.

The Proposed Action or Alternative chosen from this EA would be the basis for management of livestock on the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) Allotments.

2.2 ALTERNATIVES ANALYZED IN DETAIL

2.2.1 Best Management Practices (BMPs) Common to All Grazing Alternatives

1. Grazing systems and management practices should be directed at increasing perennial fire-tolerant grasses.
2. All uses including grazing should be designed to take into account the highly erodible nature of these soils.
3. All open topped water tanks would include a wildlife escape ramp that have a slope no steeper than 45 degrees, in all directions, is securely attached to the tank, and meets the inside wall of the tank, and extend down the inside wall of the tank/trough (in both directions), making contact with the bottom of the tank.
4. Grazing in the winter should be carefully monitored to ensure direct competition with deer and elk for forage is minimized.
5. Grazing techniques to influence better distribution of cattle on uplands and away from riparian areas should be used. Other methods such as salting and providing nutritional supplements away (at least 550 meters) from riparian areas, culling cattle that prefer grazing in riparian areas, and use of low stress stockmanship to keep cattle well distributed on uplands away from riparian areas. The permittee should use these methods to improve and maintain the health of riparian areas.

6. Grazing systems and management practices should be directed at increasing perennial grass and forb cover and meeting Public Land Health Standards.
7. Provide periodic rest during the critical spring growth period.

2.2.2 No Action Alternative

The No Action Alternative would be continuation of the current grazing permit and permittee would stay in the same schedule and numbers. Under this alternative, no AUM reduction and/or management changes would take place. The allotments would be grazed in the same manner as in past years and no alterations to the terms and conditions of the permit would take place.

Table 2.2.2-1 Current Grazing Schedule for three mentioned allotments.

| Allotment/# | Category | Livestock #/Kind | Grazing Period | %PL | Type Use | AUMS ¹ |
|--------------------------|----------|------------------|----------------|-----|----------|-------------------|
| N.E. Spear (06718) | Maintain | 147 Cattle | 04/16 – 04/30 | 100 | A | 72 |
| | | 203 Cattle | 05/01 – 05/15 | 100 | A | 100 |
| | | 244 Cattle | 05/16 – 05/31 | 100 | A | 128 |
| | | 45 Cattle | 11/16 – 12/30 | 100 | A | 67 |
| | | 97 Cattle | 12/31 – 2/15 | 100 | A | 150 |
| West Logan Wash (06752) | Improve | 140 Cattle | 5/25 – 5/30 | 100 | A | 28 |
| Logan End Common (06732) | Maintain | 17 Cattle | 06/01 – 10/31 | 100 | A | 86 |

¹ AUM is an Animal Unit Month meaning the amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month.

Table 2.2.2-2 Allotment Summary:

| Allotment | Federal Acres | AUMs | | |
|--------------------------|---------------|--------|-----------|-------|
| | | Active | Suspended | Total |
| N.E. Spear (06718) | 6,442 | 517 | 0 | 517 |
| West Logan Wash (06752) | 428 | 28 | 0 | 28 |
| Logan End Common (06732) | 1,670 | 86 | 0 | 86 |

2.2.3 Proposed Action:

The proposed action is to issue a 10 year term permit for livestock grazing on the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) Allotments. The term of the new Grazing Permit would be October 1, 2014 to September 30, 2024. The proposed action is in accordance with 43 Code of Federal Regulations (CFR) §4130.2.

Within the proposed action alternative, this EA will analyze management changes and grazing effects on the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) allotments and authorize a livestock grazing permit with terms and conditions designed to promote healthy and sustainable management. The BLM would issue livestock grazing permits

within the three allotments with modified terms and conditions so that progress can be made towards grazing livestock on public land in a responsible and sustainable manner which will help achieve rangeland health.

The proposed action includes the addition of Adaptive Management. Modifications to the permit may be made in response to abnormal environmental events such as drought, heavy snowfall, and flooding, etc. Modification may include changes to timing, intensity, duration of grazing, and the use of other grazing seasons not stated on the permit. All permits will be analyzed with a two week variable window on each side of the on/off date (not to exceed allocated AUMs) to account for seasonal variations in rangeland condition, and to promote cooperation and management of grazing permits administered by the BLM. These factors would influence plant growth and range readiness. This flexibility would also allow for minor adjustments to the permittees operation. Any changes to the allocated permit will take into account of the most recent monitoring data (frequency and trend), Land Health Assessments, and utilization etc. Below represents the modifications and any specific terms and conditions for each separate allotment.

Temporary Non-Renewable use may be authorized the BLM Authorized Officer (AO) if additional forage is available due to above normal precipitation or optimal growing conditions and utilization levels would not exceed 50% on key species. If an adjustment in grazing dates is made based on the adaptive management the number of AUM's allowed for that grazing period would not change. For example, if grazing use starts earlier than the permit date livestock would be removed earlier. Total AUM's allowed for each grazing period (spring or fall) would not increase. Livestock numbers may also vary but total AUM's allowed would not. All changes in use would be approved by the BLM Authorized Officer (AO) through the grazing schedule application process. This adaptive management would be incorporated into the terms and conditions of the grazing permit.

N.E. Spear (06718):

After reviewing prior rangeland management monitoring studies (e.g., Land Health, ESI) mentioned in the Range section of Chapter 3, the BLM has proposed timing changes and a reduction in AUMs from the current permitted grazing schedule for N.E. Spear allotment (Table 2.2.2-2). In order to graze on public BLM lands in a responsible manner, the BLM regulations allow authorized officers the ability to make changes to the permit to allow for healthy and comprehensive land management decisions.

Grazing Regulations 43 CFR Part 4110.3 (Changes in permitted use) states; *“The authorized officer shall periodically review the permitted use specified in a grazing permit or grazing lease and shall make changes in the permitted use as needed to manage, maintain, or improve rangeland productivity, to assist in restoring ecosystems to properly functioning condition, to conform with land use plans or activity plans, or to comply with the provisions of subpart 4180 of this part. These changes must be supported by monitoring, field inventory or other data acceptable to the authorized officer”*.

N.E. Spears Stipulations: Allotment would be rested until work on ponds, water sources, and functional fences are maintained before grazing is to continue. Authorized representative must

be notified when work is complete before livestock can graze on the allotment. The fence on the western boundary of the allotment would be used as a pasture rotation fence and permittee would change which pasture they start in each year to help create a rotational pattern.

West Logan Wash (06752):

Allotment will primarily be used by the permittee as a trailing/crossing allotment when transferring cattle to and from other allotments and private property. The permittee would use lower allotments (N.E. Spear) and private property in the spring and use the higher elevation Logan End Common during the summer and early fall months. From there the permittee moves livestock to private land. The allotment is simply a trailing/crossing area in the spring before moving livestock to the upper country. Timing and AUM numbers would stay the same as current schedule and are shown in Table 2.2.3-1.

Logan End Common (06732):

This allotment was and found to be meeting all Land Health Standards and other rangeland monitoring tools found the current 86 AUMs to be sufficient for proper livestock management. This allotment generally gets used during the summer and early fall months and has not shown issues or concerns with grazing livestock. No changes to AUMs or timing of use would occur in this EA. A majority of the allotment is private land. Satisfactory results from range trend studies and a Land Health Assessment confirm that continuation of the current grazing authorized on the Logan End Common (06732) allotment should continue with current grazing schedules. See Table 2.2.3-1 for grazing schedule details.

Logan End Common Stipulations: Allotment would be rested until work on ponds, water sources, and functional fences are maintained before grazing is to continue. Authorized representative would be notified when work is complete before livestock can graze on the allotment.

Table 2.2.3-1 – Proposed Grazing Schedule and new AUM Numbers for the N.E. Spear, West Logan Wash, Logan End Common Allotments.

| Allotment/# | Category | Livestock #/Kind | Grazing Period | %PL | Type Use | AUMS ¹ |
|--------------------------|----------|------------------------|------------------------------|-----|----------|-------------------|
| N.E. Spear (06718) | Improve | 80 Cattle 95 Cattle | 4/08 – 5/15 11/30 – 12/31 | 100 | A | 100* 100* |
| West Logan Wash (06752) | Maintain | 140 Cattle | 5/25 – 5/30 | 100 | A | 28 |
| Logan End Common (06732) | Maintain | 17 Cattle | 06/01 – 10/30 | 100 | A | 86 |

¹ AUM is an Animal Unit Month meaning the amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month.

* Indicates permittees must only use one season of grazing either spring or fall, not both. Terms and conditions would also stipulate that the permittee must not graze more than two consecutive spring seasons to allow for a rest period during the critical growth period.

Table 2.2.3-2 Proposed Allotment Summary:

| Allotment | Federal Acres | AUMs | | |
|--------------------------|---------------|--------|-----------|-------|
| | | Active | Suspended | Total |
| N.E. Spear (06718) | 6,442 | 100 | 0 | 100 |
| West Logan Wash (06752) | 428 | 28 | 0 | 28 |
| Logan End Common (06732) | 1,670 | 86 | 0 | 86 |

A component of the grazing permits are the maintenance of range improvements in accordance with associated Cooperative Agreements for the improvement and BLM policy. The following list of range improvements would remain in active status and be maintained.

Table 2.2.3-3

| Allotment Name/ # | Project # | Project Name | Legal Location |
|-------------------|-----------|---------------------|-------------------------|
| N.E. Spear/06718 | 270342 | Barber Fence | T7S, R98W, sec. 15 NWSE |
| N.E. Spear/06718 | 270344 | Prather Res. 1 | T7S, R98W, sec. 26 SENE |
| N.E. Spear/06718 | 270345 | Prather Res. 2 | T7S, R98W, sec. 22 SENE |
| N.E. Spear/06718 | 27097 | Eye Retention Dam | T8S, R98W, sec. 10 NWNE |
| N.E. Spear/06718 | 271099 | NE Spears Fence | T7S, R98W, sec. 25 SWSW |
| N.E. Spear/06718 | 271100 | Dry Fork Fence | T8S, R98W, sec. 11 SENE |
| N.E. Spear/06718 | 271200 | N.E. Spear Pond | T7S, R98W, sec. 36 SENW |
| N.E. Spear/06718 | 274130 | Spear Pond | T8S, R98W, sec. 10 NESW |
| N.E. Spear/06718 | 271101 | Burn Pond | T8S, R98W, sec. 12 SWNE |
| N.E. Spear/06718 | 271102 | Stoney Pond | T8S, R98W, sec. 2 SESW |
| N.E. Spear/06718 | 271103 | Silt Pond | T8S, R98W, sec. 10 NWNE |
| N.E. Spear/06718 | 271104 | Old Pond | T8S, R98W, sec. 2 NESE |
| N.E. Spear/06718 | 271105 | Road Pond | T8S, R98W, sec. 2 NESW |
| West Logan Wash | 270244 | T R Latham Fence #3 | T7S, R97W, sec. 29 SWNE |

If the improvement is no longer needed or beyond repair it would be removed or abandoned. A general description of the maintenance activity required for the various types of range improvements is described below:

Reservoirs/Retention Dams: Removal of deposited sediment from catchment area by heavy equipment. Removed sediment would be placed on the dam area to reinforce the dam. The area disturbed during facility maintenance would not exceed the area originally disturbed during construction of the project. Collection ditches may be associated with the reservoir and would require cleaning.

Fences: Replacement or repair of wooden or steel posts, broken wire, staples, clips, or stays. Maintenance would be performed on horseback, foot, or motorized vehicles on designated routes.

Cattleguards: Removal of soil underneath cattelguard grate, replacement of cattle guard supports or repair/replacement of wings. Heavy equipment such as backhoe would be required to remove cattleguard, remove soil, and replace cattleguard. Some cattleguards

allow for cleaning by hand digging. The disturbed area would not exceed the area originally disturbed by the installation.

Springs and Pipelines: Replacement or repair of collection box of spring, enclosure surrounding spring, troughs or pipelines. Heavy equipment may be necessary to excavate spring box or pipelines. The disturbed area would not exceed the area originally disturbed by the installation.

All heavy equipment would be washed and free of debris and weeds before entering BLM lands.

Terms and Conditions of the Proposed Action would be:

1. This livestock grazing permit would be in compliance with all conservation measures within the Biological Opinion for Livestock Grazing Program Effects on Three Listed Plants in the Bureau of Land Management (Grand Junction, Colorado River Valley, and Uncompahgre Field Offices)
2. Livestock grazing utilization levels on key forage species (Indian ricegrass, poa grasses, squirreltail grass, perennial wheat grasses, sand dropseed grass, needle and thread grass, galleta grass, winter fat, and shadscale.) would not exceed 40%. Utilization levels on non-native perennial grasses in the seedings (crested wheat, pubescent wheatgrass) would not exceed 50%. If utilization levels are approaching allowable use, livestock would be required to be moved to areas within the allotment that are not approaching allowable use levels. When such areas are not available, livestock would be removed from the allotment when allowable use rates are met. Management adjustments would be made the following year to avoid recurring instances of over utilization.
3. Permittee(s) are only allowed to graze one scheduled grazing season within the permitted grazing dates. Either spring or fall scheduled grazing dates may occur, NOT both. Permittee(s) would NOT graze more than two consecutive spring seasons; For example, the permittee could graze two springs in a row but would have to wait till the following years fall season to graze. This allows for rest periods from grazing during the critical growth period. Permittees may change this management term and condition to better fit their management operation, however change MUST be analyzed by the BLM management team and written in a grazing use agreement.
4. Temporary Non-renewable (TNR) or Adaptive Use may be approved by the authorized BLM officer within existing grazing permit schedule if additional forage, such as annuals are deemed available within the authorized grazing period and the vast majority of the grazing area is meeting Land Health Standards.
5. To allow for variation in climate, plant growth conditions, and flexibility in permittee livestock operations, the BLM may adjust the authorized grazing period by up to two weeks at the end of the permitted grazing period if rangeland conditions are

determined by the Authorized officer to be satisfactory for livestock use and AUMs are not exceeded.

6. Use supervision checks by BLM staff would be conducted to assure grazing compliance. The Grand Junction Field Office would use utilization checks, collect trend data, and evaluate allotments whenever necessary. Evaluation of monitoring will be used to make appropriate changes to grazing management in order to protect land health. This permit is subject to change if results from monitoring land health conclude that the Standards for Rangeland Health are not being met and livestock grazing is determined to be the cause.
7. Salting and mineral blocks would be placed at least one quarter (1/4) mile or further from water sources and riparian areas. Less than one quarter mile may be allowed if terrain does not allow for one quarter mile distance and approved by the BLM AO.
8. Water source areas would be monitored by the permittee and BLM for infestation of noxious weeds. The permittee and BLM would coordinate to treat and eradicate any weed infestations should they occur.
9. Upon approval by the Authorized Officer (AO), the permittee would have the option to apply for more cattle over a shorter time period as long as AUMs are not exceeded in a grazing season and use is within the season of use.
10. All new range improvement projects would be in accordance with BLM standards.
 - Example - wildlife escape ramps are required in water troughs under BLM standards.
11. Maintenance of all structural rangeland improvements (RI) and other projects are the responsibility of the permittee to which they have been assigned. Maintenance would be in accordance with cooperative agreements and/or range improvement permits (43 CFR §4120.3-1). Failure to maintain assigned projects in a satisfactory/functional condition may result in withholding authorization to graze livestock until maintenance is completed. Construction of new RI on BLM administered lands is prohibited without approval from the authorized officer.
 - a. The BLM authorized officer would be contacted prior to any range project maintenance activity involving soil surface disturbance. An example includes but not limited to cleaning of ponds with heavy equipment, which would involve soil surface disturbance. All heavy equipment will be washed and free of debris before entering BLM lands.
12. Permittees or lessees would provide reasonable access across private and leased lands to the Bureau of Land Management for the orderly management and protection of the public lands related to grazing administration.

13. Grazing would be deferred on new vegetation treatments and rehabilitated burned areas to allow two growing seasons of rest unless otherwise authorized. Coordination and cooperation would occur with the permittee prior to any treatment.
14. The permittee would submit an Actual Use form within 15 days after completing their annual grazing use as outlined in 43 CFR 4130.3-2(d).
15. It is the responsibility of the Permittee to inform all persons associated with work on federal lands subject to the permit that they would be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts.
16. Surface disturbing range improvements associated with the allotment (e.g., fences, ponds) are subject to compliance requirements under Section 106 and would undergo standard cultural resources inventory and evaluation procedures. Any future range improvements would also undergo a full NEPA analysis for all resources.
17. If newly discovered cultural resources are identified during project implementation, work in that area would stop and the BLM Authorized Officer should be notified immediately (36 CFR 800.13).
18. Notify the Authorized Officer (AO) by telephone and with written confirmation, immediately upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Activities would stop in the immediate area of the find, and the discovery would be protected for 30 days or until notified to proceed in writing by the AO.
19. During dry and drought conditions adjustments would be made that involve reduction of AUMs or non-use as stated under Code of Federal Regulations §4110.3-2 “Decreasing permitted use” (a) Permitted use may be suspended in whole or in part on a temporary basis due to drought, fire, And §4110.3-3 “Implementing reductions in permitted use” (a) After consultation, cooperation, and coordination with the affected permittee or lessee,...., reductions of permitted use shall be implemented through a documented agreement or by decision of the authorized officer. (b) When the authorized officer determines that the soil, vegetation, or other resources on the public lands require immediate protection because of conditions such as drought, fire,, the authorized officer shall close allotments or portions of allotments to grazing by any kind of livestock or modify authorized grazing use notwithstanding the provisions of paragraph (a) of this section.

Additional Terms and Conditions specific to livestock grazing within the known range of Colorado Hookless Cactus, De Beque phacelia, and its designated critical habitat (adapted from conservation measures in “Biological Opinion for Livestock Grazing Program Effects on Three Listed Plants in the Bureau of Land Management Grand Junction, Colorado River Valley, and Uncompahgre Field Offices):

Conservation Measure 1: In areas where there is a concern that Colorado hookless cactus, and DeBeque phacelia may be present, a survey would be conducted prior to any livestock management actions such as range improvements or maintenance, or weed management.

Conservation Measure 2: Maps would be provided to permittees that identify sensitive areas where restrictions may apply to particular grazing-related activities for the Colorado hookless cactus, and DeBeque phacelia (individual occurrences or populations plus a 200-meter [656 feet] buffer). As new information becomes available, and as necessary, maps would be updated by the BLM and provided to permittees each year if new occurrences are found. (Note: Maps provided to permittees will include sufficient buffers and randomized perimeters to avoid disclosing exact species locations.)

Conservation Measure 3: The permittee is required to notify the BLM Rangeland Management Specialist prior to any surface disturbing range project maintenance activity (fences, stock ponds, spring developments, etc.) in any allotment (standard condition for all BLM allotments). Surveys and avoidance measures would be required where effects to listed plants may occur.

- Construction of new range developments (e.g., fences, ponds, water troughs) would be designed to avoid impacts to listed species whenever feasible. New range developments that may affect listed species would not be permitted until completion of an additional tiered consultation.

Conservation Measure 4: If a permittee wishes to apply an herbicide treatment, they must obtain prior approval from the BLM. Appropriate applicator licenses must be obtained, copies of the appropriate Pesticide Use Proposal must be obtained from the BLM, and a Pesticide Application Record must be completed and returned to BLM no later than 10 days after herbicide application (standard condition for all BLM allotments).

- The permittee must consult with the BLM Rangeland Management Specialist and Biologist/Ecologist prior to applying herbicides or pesticides within 200 meters (656 feet) of individual plants or populations. Such treatments may be restricted or modified to avoid effects to the three listed species. Depending on the Field Office and weed program restrictions (see following point), additional section 7 consultation may be required prior to applying herbicides.
- All treatments would comply with the approved GJFO Integrated Weed Management Plan (IWMP) and section 7 consultation.

Conservation Measure 5: Within 200 meters (656 feet) of listed plants, motorized access for livestock grazing operations will be limited to existing designated roads and routes. Any

additional access proposed for grazing operations would require additional surveys and section 7 consultation.

Conservation Measure 6: As a standard permit term and condition within occupied habitat for listed plants, seasonal utilization levels on palatable perennial forage will be limited to 40 percent to the extent possible, and average utilization will not exceed 50 percent (currently the approximate level of forage utilization in most areas on public lands).

Conservation Measure 8: No concentrations of livestock activities including but not limited to herding, routine trailing, bedding, salt or supplement, portable watering, and new stock ponds will be allowed within 200 meters (656 feet) of individual listed plants or populations, except as provided below:

- Concentration may be allowed where separated by a fence or topographic feature (cliff) that will render the impacts to listed plants insignificant, discountable, or if impacts are wholly beneficial (distribute livestock away from listed plants).
- The BLM Rangeland Management Specialist will collaborate with the permittee to develop and employ appropriate grazing strategies for the allotment pastures and use areas to meet Colorado Public Land Health Standards, specifically standard 3 for upland plant communities and standard 4 for Threatened, Endangered Species (TES) species.

Where possible, grazing should be limited to 15 days or less in each pasture or use area during the germination, flowering, and fruiting period for the three focus species to ensure reproduction and recruitment.

Conservation Measure 9: If monitoring/LHAs conclude that an allotment with occupied habitat is not meeting the standards for special status plants, vegetation, or soils, and livestock grazing is identified as a significant causal factor in not meeting those standards, grazing permit modifications, mitigation, or other prescriptive measures will be required by BLM, such as:

- The BLM Rangeland Management Specialist will work with the permittee to pursue opportunities to allow portions of the allotment(s) to receive yearlong rest or deferment in order to increase plant vigor.
- Exclosures or drift fences may be considered in certain areas where individual plants or populations require special protections from livestock grazing or associated activities, as determined by the BLM.
- Permit terms and conditions may be modified to minimize impacts to listed plants (e.g., improved distribution, changes in season of use/class of livestock).

2.2.4 No Livestock Grazing Alternative

This alternative would mean that a Term Grazing Permit would not be issued and no grazing would be allowed on the allotments. Livestock grazing would cease to be permitted on affected allotments.

2.3 PLAN CONFORMANCE REVIEW

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: GRAND JUNCTION Resource Management Plan

Date Approved: JANUARY, 1987

Decision Number/Page: 2-17

Decision Language: Grazing use will be in accordance with the Taylor Grazing Act, FLPMA, Public Rangelands Improvement Act (PRIA), 43 CFR 4100 and 4180, the Wilderness Act, grazing permits, and BLM Policy.

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.

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

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.

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.

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.

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.

Because standards exist for each of these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in Chapter 3 of this document.

PAST ENVIRONMENTAL ASSESSMENTS (Permit Renewals):

N.E. Spear (06718): North East Spears Allotment #06718 Permit Renewal EA
(CO-GJFO-03-28-EA)

Date: September 2003

West Logan Wash (06752): West Logan Wash #06752 Permit Renewal EA
(CO-GJFO-03-30-EA)

Date: September 2003

Date: September 2003

CHAPTER 3

3.1 INTRODUCTION

This section provides a description of the human and natural environmental resources that could be affected by the Proposed Action and presents comparative analyses of the direct, indirect and cumulative effects on the affected environment stemming from the implementation of the actions under the Proposed Action and other alternatives analyzed.

This EA draws upon information compiled in the Grand Junction Resource Area RMP (BLM 1987) and the Grand Resource Area RMP (BLM 1985).

3.1.1 Elements Not Affected

The following elements, identified as not being present or not affected and are not be brought forward for additional analysis:

Air and Climate – The authorized grazing use on the allotments would not affect the air and climate.

Prime or Unique Farmlands – there are not prime or unique farmlands located on the allotment.

Geological - livestock grazing would not affect the geology.

Mineral Resources - livestock grazing would not affect mineral resources.

Paleontological - livestock grazing would not affect paleontology.

Transportation and Access - livestock grazing would not affect transportation and access.

Land Tenure, ROW and Other Uses - livestock grazing would not affect land tenure, ROWs and other uses.

Fire and Fuels – Livestock grazing within the proposed allotment would not affect the fire and fuels program.

Riparian – There are no riparian areas within the proposed allotments.

Wild Horse and Burro Program – There is no wild horse and burro range located in these allotments.

Wild and Scenic Rivers – There are no designated wild and scenic rivers present on the allotments.

Wilderness – There are no wilderness areas or WSA's exist on the allotments.

3.1.2 Past, Present, Reasonably Foreseeable Actions

NEPA requires federal agencies to consider the cumulative effects of proposals under their review. Cumulative effects are defined in the Council on Environmental Quality (CEQ) regulations 40 CFR §1508.7 as “...the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency...or person undertakes such other actions.” The CEQ states that the “cumulative effects analyses should be conducted on the scale of human communities, landscapes, watersheds, or airsheds” using the concept of “project impact zone” or more simply put, the area that might be affected by the proposed action. The area that may be affected by this project includes N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) allotments. To assess past, present and reasonably foreseeable actions that may occur within the affected area a review of GJFO NEPA log and our field office GIS data was completed. The following list includes all past, present and reasonably foreseeable actions known to the BLM that may occur within the affected area:

Past Actions:

Past actions in the affected area include:

- Oil and Gas development – There has been past oil and gas development within the N.E. Spear, West Logan Wash, and Logan End Common allotments.
- Wild Fires and Prescribed Fires have occurred in the area since at least 1980.
- Recreation – mountain biking, OHV use, hiking, and hunting.
- Livestock Grazing – livestock grazing has occurred in the area for more than 50 years.
- Road Construction and Maintenance and Right-of-Ways (ROWs) – all of the above activities have required construction and maintenance of roads and ROWs have been involved with Oil and Gas, Livestock Grazing and Recreation.

Present Actions:

Oil and gas and livestock grazing are the current actions within all three permitted allotments. N.E. Spear allotment has a potential for recreation in the future.

Reasonably Foreseeable Actions: Livestock grazing, oil and gas, and recreation are expected to continue for the next 10 years.

Reasonably Foreseeable Actions

Recreation, Livestock Grazing and Oil and Gas are expected to continue for at least the next 10-20 years.

Table 3.1– Potentially Impacted Resources

| Resources | Not Present On Location | No Impact | Potentially Impacted | Mitigation Necessary? | BLM Evaluator Initial & Date | Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------|----------|
| PHYSICAL RESOURCES | | | | | | |
| Air and Climate | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ND 7/8/14 | |
| Water (surface & subsurface, floodplains) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ND 7/8/14 | |
| Soils | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ND 7/8/14 | |
| Geological/Mineral Resources | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | SG 7/28/14 | |
| BIOLOGICAL RESOURCES | | | | | | |
| Special Status Plants | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ARL 7/18/14 | |
| Special Status Wildlife | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | HLP 7/11/14 | |
| Migratory Birds | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | HLP 7/11/14 | |
| Other Important Wildlife Habitat | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | HLP 7/11/14 | |
| Vegetation, Forestry | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | JAM 4/28/14 | |
| Invasive, Non-native Species | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | MT 6/16/14 | |
| Wetlands/Riparian Zones | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | JAM 7/31/14 | |
| HERITAGE RESOURCES AND HUMAN ENV. | | | | | | |
| Cultural or Historical | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ALR 7/31/14 | |
| Paleontological | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | SG 7/28/14 | |
| Tribal& American Indian Religious Concerns | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | ALR 7/31/14 | |
| Visual Resources | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CPP 7/23/14 | |
| Social/Economic | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | JAM 4/28/14 | |
| Transportation and Access | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CPP 7/23/14 | |
| Wastes, Hazardous or Solid | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | AK 6/18/14 | |
| LAND RESOURCES | | | | | | |
| Recreation | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | CPP 7/23/14 | |
| Special Designations (ACEC, SMAs, WSR) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CPP 7/23/14 | |
| Wilderness & Wilderness Characteristics | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CPP 7/23/14 | |
| Range Management | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | JAM 4/28/14 | |
| Wild Horse and Burros | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | JAM 7/14/14 | |
| Land Tenure, ROW, Other Uses | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | JAM 7/14/14 | |
| Fire/Fuels | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | JAM 7/14/14 | |

3.2 PHYSICAL RESOURCES

3.2.1 Soils (includes a finding on Standard 1)

Current Conditions:

Soils within the project area have been mapped by the Natural Resource Conservation Service (NRCS) in an Order III soil survey of the Mesa County Area accessible on-line through the NRCS web soil survey (USDA-NRCS. 2014). Specific descriptions of soil mapping units from the NRCS web soil survey in the NE Spear, West Logan and Logan End Allotments are identified in Tables 3.2.1-S-1, 3.2.1-S-2 and 3.2.1-S-3. In general, affected soils are developing in sandstone and shale residuum, colluvium, or alluvial deposits of the Green River and Wasatch Formations. Elevations range from 4800 feet in the valley bottoms to over 8,500 feet on the Roan Plateau mountain tops. Precipitation likewise ranges from 11 inches, to over 23 inches at the highest elevations.

Table 3.2.1-S-1:

| Soils by allotment | | | | | |
|---|---|-----------------|------------------|--------------|--|
| Soil Name(#) | Parent Material | Slope range (%) | Drainage Class | Runoff Class | Approximate Acres/Allotment |
| Barx loam (3) | Mixed material eolian deposits | 3-12 | Well drained | medium | 128/West Logan Wash |
| Biedsaw-Sunup gravelly loams (7) | Wasatch shale formation colluvium over Wasatch shale formation residuum | 10-40 | Well drained | Very high | 4119/NE Spear 192/West Logan Wash 216/Logan End Common |
| Dominguez clay loam (31) | Wasatch shales alluvium and/or Wasatch shales residuum | 1-3 | Well drained | high | 73/NE Spear |
| Dominguez clay loam (32) | Residuum and alluvium derived dominantly from Wasatch shales. | 3-8 | Well drained | medium | 1103/NE Spear |
| Grobutte very channery loam | Mixed material colluvium | 30-60 | Well drained | high | 211/Logan End Common |
| Happle very channery sandy loam (44) | Green river formation alluvium derived from shale | 3-12 | Well drained | medium | 199/NE Spear 148/West Logan Wash |
| Happle-Rock outcrop association (46) | Green river formation colluvium derived from shale | 25-65 | Well drained | high | 802/NE Spear 1303/Logan End Common |
| Northwater-Adel complex (52) | Colluvium derived from sedimentary rock and/or residuum weathered from sedimentary rock | 5-50 | Well drained | medium | 346/ Logan End Common |
| Panitchen loam (54) | Mixed material alluvium | 1-6 | Well drained | medium | 28/NE Spear |
| Parachute-Irigul complex (55) | Residuum weathered from shale and siltstone and/or residuum weathered from sandstone and shale | 5-30 | Well drained | high | 166/Logan End Common |
| Parachute-Irigul-Rhone association (56) | Colluvium derived from sandstone and shale and/or residuum weathered from siltstone | 25-50 | Well drained | high | 863/Logan End Common |
| Parachute-Rhone loams (57) | Hard residuum weathered from sandstone and siltstone | 5-30 | Well drained | high | 565/ Logan End Common |
| Silas loam (63) | Mixed rock alluvium derived from sedimentary rock | 1-12 | Mod well drained | High | 2/Logan End Common |
| Torriorthenes, cool-Rock outcrop complex (65) | Colluvium derived from limestone and siltstone and/or colluvium derived from sandstone and shale and/or residuum weathered from | 35-95 | Well drained | high | 916/NE Spear 51/Logan End Common |

| | | | | | |
|---|--|-------|--------------|-------|---|
| | limestone and siltstone and/or residuum weathered from sandstone and shale. | | | | |
| Torriorthents, warm-Rock outcrop complex (66) | Rock outcrops and residuum and colluvium derived from sandstone, shale or siltstone. | 35-90 | Well drained | Rapid | 269/NE Spear 99/Logan End Common |
| Tosca channery loam (67) | Green river colluvium derived from shale | 25-80 | Well drained | high | 167/NE Spear 396/Logan End Common |
| Utson-Rock outcrop complex (71) | Green river colluvium derived from shale | 40-65 | Well drained | high | 58/NE Spear 210/Logan End Common |

Table data from USDA-NRCS 2014.

Soils at the higher elevations are primarily developing in residuum and colluvial deposits of the Green River Formation. The soils are shallow to deep, with sandy loam, loam, and clay loam textures, generally modified by channery fragments of the Green River. They have a high erosion hazard.

Soils on the lower side slopes of the incised valleys are developing in colluvium and alluvial sediments of the Wasatch Shale Formation. These soils are clayey, shallow too deep over shale/sandstone, and are alkaline (Foothill Juniper and Semidesert Clay Loam range sites). Soil erosion and sediment production is greater than desired (much of the erosion is geologic in nature). Lower-lying portions of the side slopes and benches and southerly aspects, support a Pinyon-Juniper vegetation and sparse understory of grasses and shrubs; scattered sagebrush parks occur on the deeper soils. The erosion hazard is very high in these areas. A comprehensive description of all affected soils can be obtained online through the NRCS website: <http://websoilsurvey.nrcs.usda.gov>

A formal land health assessment was conducted by BLM in 2013 for the Roan/Carr Creek area which included the NE Spears, West Logan Wash and Logan End Common allotments. Results of this assessment are displayed in Tables 3.2.1-S-2 through 3.2.1-S-4 below. Overall, soils within the NE Spear and Logan End Common allotments were meeting land health standard 1. Soils in the West Logan Wash allotment were identified as being in a degraded state and unable to meet Public Land Health Standard (PLHS) 1. Areas mapped as not meeting PLHS 1 were are primarily attributable to a combination of bare ground, poor past management, evidence of erosion above what would naturally be expected for a given ecological site, poor plant cover, and drought.

Table 3.2.1-S-2: Finding on PLHS-1 within NE Spear Allotment

| Finding on PLHS-1 | Acres | % of Allotment | Comments |
|------------------------------|--------------|-----------------------|---|
| <i>Not-meeting</i> | 976 | 15% | Largely bare soils with sheet erosion, increased soil loss, poor plant cover. |
| <i>Meeting with Problems</i> | 0 | 0% | N/A |

| | | | |
|----------------|-------|-----|--|
| <i>Meeting</i> | 5,349 | 85% | No rills due to channery makeup, little erosion. |
|----------------|-------|-----|--|

Table data from BLM Roan/Carr Creek Land Health Assessment (BLM. 2013).

Table 3.2.1-S-3: Finding on PLHS-1 within West Logan Wash Allotment

| Finding on PLHS-1 | Acres | % of Allotment | Comments |
|------------------------------|--------------|-----------------------|--|
| <i>Not-meeting</i> | 260 | 71% | 58% bare ground and surface erosion, soils being lost off site. Poor past management and drought impacts. No recent livestock use was noted. |
| <i>Meeting with Problems</i> | 0 | 0% | N/A |
| <i>Meeting</i> | 167 | 29% | None |

Table data from BLM Roan/Carr Creek Land Health Assessment (BLM. 2013).

Table 3.2.1-S-4: Finding on PLHS-1 within Logan End Common Allotment

| Finding on PLHS-1 | Acres | % of Allotment | Comments |
|------------------------------|--------------|-----------------------|---|
| <i>Not-meeting</i> | 0 | 0% | N/A |
| <i>Meeting with Problems</i> | 0 | 0% | N/A |
| <i>Meeting</i> | 1,494 | 100% | Stable and well vegetated, good diversity, production and reproduction, good healthy habitat. Soils are stable. |

Table data from BLM Roan/Carr Creek Land Health Assessment (BLM. 2013).

No Action:

NE Spear Allotment: Under the No-Action alternative, current management practices would continue for the life of the permit. The 2009 Ecological Site Inventory and 2013 Land Health Assessments both conclude that changes in grazing management were necessary in order to allow for recovery of damaged vegetation resources which are a product of historic grazing, drought, and cheatgrass invasion. Continuation of current grazing practices may reduce the rate of recovery for vegetation and soils in areas currently identified as “not meeting” PLHS-1. As a result, the health and vigor of vegetative communities could be further reduced increasing potential for expansion of invasive species, elevating percent bare ground, and increasing soil erosion potential. Invasion of non-native plant species may also alter natural fire regimes which can further destroy native plant communities leaving soils increasingly vulnerable to natural erosional processes. As a result, erosion rates could be elevated over the landscape when compared to conditions under a desired plant community. Areas that would experience these impacts first would be those areas already identified through the 2013 Land Health Assessment in the NE Spear allotment as “not meeting” (976 acres) PLHS-1. Consequently, soils adjacent to areas existing in a degraded condition would become increasingly vulnerable to deterioration. As a result, the number of acres no longer meeting PLHS-1 is anticipated to be static or increase from current conditions under the no-action alternative (greater than or equal to 976 acres not meeting PLHS-1).

West Logan Wash Allotment: Under the No-Action alternative, current management practices would continue for the life of the permit. Impacts occurring throughout the West Logan Wash allotment associated with the combined effects of poor past management (historic grazing), drought, and invasive species would persist. Continuation of current grazing practices may reduce the rate of recovery for vegetation and soils in areas currently identified as “not meeting” PLHS-1. As a result, the health and vigor of vegetative communities could be further reduced increasing potential for expansion of invasive species, elevating percent bare ground, and increasing soil erosion potential. Invasion of non-native plant species may also alter natural fire regimes which can further destroy native plant communities leaving soils increasingly vulnerable to natural erosional processes. As a result, erosion rates could be elevated over the landscape when compared to conditions under a desired plant community. Areas that would experience these impacts first would be those areas already identified through the 2013 Land Health Assessment in the West Logan Wash allotment as “not meeting” (260 acres) PLHS-1. Consequently, soils adjacent to areas existing in a degraded condition would become increasingly vulnerable to deterioration. As a result, the number of acres no longer meeting PLHS-1 is anticipated to be static or increase from current conditions under the no-action alternative (greater than or equal to 260 acres not meeting PLHS-1).

Logan End Common Allotment: The Logan End Common allotment was not identified to have any issues related to livestock grazing through the 2013 BLM LHA. Ecological Site Inventory completed by BLM in 2009 found the current grazing use to be sufficient to sustain both resources and resources uses (livestock grazing). Therefore continuation of the current grazing schedule in this allotment is not anticipated to negatively impact vegetation or soil resources. All public lands in the Logan End allotment (1,494 acres) would continue to meet PLHS-1 under the No-Action alternative.

Cumulative Effects:

Continued grazing under current conditions combined with effects from fluid mineral development, recreation, and poor past management (historic grazing), drought, and invasive species could result in degradation to soil health as outlined above for each allotment. The amount of degradation (acres not meeting PLHS-1) resulting from cumulative impacts could result in more acres not meeting PLHS-1 when compared to the current condition.

Proposed Action:

NE Spear Allotment: Under the Proposed action alternative the intensity and season of use would be modified from current conditions as outlined in Table 2.2.3-2. The 2009 Ecological Site Inventory and 2013 Land Health Assessments both conclude that changes in grazing management were needed to allow for recovery of damaged vegetation resources which were a product of historic grazing, drought, and cheatgrass invasion. Under the proposed action, total AUMs would be reduced by roughly 81% and grazing during the spring and fall would not occur together in any given year. Furthermore, spring grazing would not be extended beyond May 15th (unless climatic and/or rangeland conditions warrant an exception) providing necessary rest from livestock grazing during the critical spring growing period. Rest from livestock grazing during the critical spring growing season and combined fall grazing would help preserve the health and

vigor of vegetative communities' consequently preserving soil stabilizing agents and reducing soil erosion.

Under the proposed action the 976 acres (15% of the total acreage) mapped as not meet Public Land Health Standards would likely see measurable improvements over time. Vegetative communities in these areas would experience regular rest from grazing during the critical spring growing season which would improve vegetative health and vigor while also enhancing soil stabilization and nutrient cycling over time. As a result, the proposed action could contribute towards improvement to public land health throughout the entire allotment. The number of acres identified as not-meeting could be reduced from current conditions (less than 15 % of total acres would be identified as not meeting). However, climatic conditions, severity of existing degradation, and effectiveness of weed treatment efforts would all be variables affecting the degree of success and the number of acres potentially improved through this action.

West Logan Wash Allotment: No changes from current livestock management for the West Logan Wash allotment are identified under the proposed action. Therefore the impacts are the same as outlined above under the No-Action alternative. The number of acres no longer meeting PLHS 1 is anticipated to be static or increase from current conditions under the proposed action alternative (greater than or equal to 260 acres not meeting PLHS-1).

Logan End Common Allotment: The Logan End Common allotment was not identified to have any issues related to livestock grazing through the 2013 BLM LHA. Ecological Site Inventory completed by BLM in 2009 found the current grazing use to be sufficient to sustain both resources and resources uses (livestock grazing). Therefore continuation of the current grazing schedule as outlined in the proposed action is not anticipated to negatively impact vegetation or soil resources. All public lands in the Logan End allotment (1,494 acres) would continue to meet PLHS-1 under the No-Action alternative.

Cumulative Effects:

NE Spear Allotment: Through implementation of the proposed grazing management plan for the NE Spear allotment, vegetative communities would be closely monitored and grazing intensity or season of use would be modified to protect soil resources. Other land uses such as fluid mineral development would continue to have the potential to negatively impact soil resources. However, soil and vegetative resources would be less vulnerable to other actions with successful implementation of the new term grazing permit. Areas currently mapped as not meeting for PLHS 1 would be more likely to recover under the proposed action and favorable climatic conditions. Over time the percentage of acres within the allotment boundary identified as not meeting or meeting with problems could be reduced below 15%.

West Logan Wash/Logan End Common: Cumulative impacts would be same as outlined in the No-Action alternative.

Protective/Mitigation Measures (all allotments):

1. Continued monitoring of grazing systems for effectiveness in meeting plant species and cover goals is important, particularly with regard to spring season of use.

2. Grazing systems and management practices should be directed at increasing perennial fire-tolerant grasses.
3. All uses including grazing should be designed to take into account the highly erodible nature of these soils.
4. All range improvement projects (RIPs) would be constructed or maintained to minimum BLM standards as outlined in BLM Manual H 1740-2 and subsequent updates (BLM 2008).
5. Non-functional items should be removed from the landscape (not abandoned in place) and point sources (springs/seeps) restored through guidance from BLM TR 1737-17 and subsequent updates to achieve desired future conditions (BLM 2001).
6. Grazing on NE Spears and Logan End Common should not be permitted until all RIPs are functioning properly as assessed by BLM.

No Livestock Grazing

Direct and Indirect Effects: There would be no negative impacts to soil resources resulting from livestock grazing if livestock grazing was removed. It is anticipated that the health and vigor of vegetation communities would improve under this alternative and overall soil health would indirectly benefit.

Cumulative Effects:

Soil health would improve in the absence of livestock grazing partially due to improvements in vegetative health under this alternative.

Protective/Mitigation Measures:

Continued monitoring and treatment of noxious/invasive plant species would be necessary to preserve vegetative communities and protect soil health.

3.2.2 Water (surface and groundwater, floodplains) (includes a finding on Standard 5)

Current conditions:

All of the affected allotments are situated within water quality stream segment 14c of the Lower Colorado River Basin. Additionally, the Logan End Common allotment is within water quality stream segment 11g of the Lower Colorado River Basin. The principal drainage in segment 14c is Roan Creek while Parachute Creek drains segment 11g. Both segments 14c and 11g are tributary to the Colorado River and water quality stream segment 2a (CDPHE 2013). Table W-1 displays primary drainages by allotment (not including unnamed tributaries), water quality stream segment and flow characteristics.

W-1: Water quality stream segments and flow characteristics by allotment.

| Allotment | Water Quality Stream Segment | Prinsipcal Drainages | Flow Characteristics |
|------------------|------------------------------|----------------------|----------------------|
| NE Spear | 14c | Dry Fork | perennial |
| | | Roan Creek | |
| West Logan Wash | | Gibbler Gulch | ephemeral |
| | | Bloat Gulch | |
| Logan End Common | | Logan Wash | |
| | | Bowdish Gulch | |
| | Logan Wash | | |
| | 11g | Starkey Gulch | Intermittent |
| | South Fork | | |

The Dry Fork portion of stream segment 14c is identified in Colorado’s list of impaired streams or monitoring and evaluation list (CDPHE. 2012) meaning water quality standards are not being met. However, selenium impairments in the Dry Fork are most likely attributable to natural geologic conditions and irrigation on private land over soils derived from geologic formations naturally high in selenium. Water quality data collected by BLM on July 27, 2011 show selenium concentrations at 0.33 µg/l which is below table value standards set forth in CDPHE Regulation 37 for both acute (18.4 µg/l) and chronic levels (4.6 µg/l). However, this single sample may not accurately portray water quality in Dry Fork during the entire water year as fluctuations in water quality contaminant concentrations may be affected seasonally. Stream segment 2a of the Lower Colorado River is identified in CDPHE Regulation 93 on the “Monitoring and Evaluation List” for sediment. For all affected reaches beneficial use classifications, minimum standards for physical and biological, inorganics, and metals are listed CDPHE Regulation 37 (CDPHE 2014).

Water quality in Roan Creek upstream from the identified allotments is typically very good from the headwaters to Kimball Creek as conductivities average 609 µS/cm at 25° C (BLM data). Water quality monitoring in Roan Creek at De Beque (below Kimball Creek and downstream from identified allotments) indicates reduced water quality with an average conductivity of 2,067 µS/cm at 25° C. Elevated conductivities in the lower portion of Roan Creek can be attributable to both natural and anthropogenic influences. Natural influences are represented by geologic setting, surface water, and groundwater increased time in contact with geologic formations derived from marine environments. Anthropogenic influences are represented by irrigation over soils derived from marine derived geologic formations and from surface disturbances (e.g. roads, pipelines, historic livestock grazing, etc...) which may accelerate erosion rates above natural conditions.

The headwater portions of Starkey Gulch and South Fork are intermittent and primarily supported by groundwater discharging to the surface as springs. Field water quality samples collected from these sources indicate good water quality with conductivities typically below 300 µS/cm at 25° C. The primary source of water for springs in this area is from infiltration of snowmelt and precipitation through fractured sandstone and mudstone of the Uinta Formation. No issues with current levels of livestock use were identified in the most recent land health

assessment (BLM 2013) to be negatively impacting springs on public lands within the affected allotments. The U.S. Government has valid existing water rights for livestock and wildlife uses at all springs within the Logan End Allotment except Main Drain Spring which is believed to be the re-emergence of groundwater from two upstream BLM springs. No new water developments are identified in any of the alternatives.

Water quality in ephemeral systems of the Lower Colorado River Basin is primarily attributable to the natural environment and geologic setting. However, anthropogenic influences can elevate sedimentation rates increasing conductivities, hardness, alkalinity, and degrade water quality in general.

A formal land health assessment was conducted by BLM in 2013 for the Roan/Carr Creek area which included all of the affected allotments. Results of this assessment are displayed in Tables 3.2.1-S-2 through 3.2.1-S-4 above in the soils section. Overall, water quality within the allotment boundaries were meeting land health standard 5 as all State water quality standards are being met. However, on a local scale areas mapped as not meeting public land health standard 1 were also observed to not be meeting public land health standard 5 for water quality. These impacts were documented as reduced soil canopy cover and reduced infiltration capacities which appeared to be causative factors in elevate run-off and increased erosion rates when compared to natural conditions based on ecologic site descriptions (BLM. 2013).

Finding for Public Land Health Standard 5:

Currently only the Dry Fork portion of stream segment 14c does not meet State water quality standards. However, the nature of this impairment is largely due to influences outside BLM's control as described above.

No other water quality stream segments in the affected allotments were identified as being impaired by the State. However, as noted above BLM land health evaluations in 2013 reported localized areas within the allotment boundaries were observed to be lacking proper hydrologic function and were identified as not meeting soil health standards (see Tables 3.2.1-S-2 through 3.2.1-S-4). Watershed health and water quality are intricately tied to the soil and vegetative health. Therefore, where soil health standard 1 is compromised due to lack of perennial plant diversity and cheat grass invasion, water quality may also begin to deteriorate.

No Action:

NE Spear Allotment: Under the No-Action alternative, current management practices would continue for the life of the permit. The 2009 Ecological Site Inventory and 2013 Land Health Assessments both conclude that changes in grazing management were needed to allow for recovery of damaged vegetation resources which are a product of historic grazing, drought, and cheatgrass invasion. Continuation of current grazing practices may reduce the rate of recovery in watersheds where soils and water quality are currently identified as "not meeting" PLHS-1 and PLHS-5. As a result, watershed values would continue to be compromised as the health and vigor of vegetative communities could be further reduced increasing potential for expansion of invasive species, elevating percent bare ground, increasing soil erosion potential, and degrading water quality. Invasion of non-native plant species may also alter natural fire regimes which can further destroy native plant communities leaving soils increasingly vulnerable to natural

erosional processes. As a result, erosion rates could be elevated over the landscape when compared to conditions under a desired plant community. Areas that would experience these impacts first would be those areas already identified through the 2013 Land Health Assessment in the NE Spear allotment as “not meeting” (976 acres) PLHS-1 and PLHS-5. Consequently, soils and watershed values adjacent to areas existing in a degraded condition would become increasingly vulnerable to deterioration. As a result, the number of acres no longer meeting PLHS-1 is anticipated to be static or increase from current conditions under the no-action alternative (greater than or equal to 976 acres not meeting PLHS-1 and PLHS-5).

West Logan Wash Allotment: Under the No-Action alternative, current management practices would continue for the life of the permit. Impacts occurring throughout the West Logan Wash allotment associated with the combined effects of poor past management (historic grazing), drought, and invasive species would persist. Continuation of current grazing practices may reduce the rate of recovery in watersheds where soils and water quality are currently identified as “not meeting” PLHS-1 and PLHS-5. As a result, watershed values would continue to be compromised as the health and vigor of vegetative communities could be further reduced increasing potential for expansion of invasive species, elevating percent bare ground, increasing soil erosion potential, and degrading water quality. Invasion of non-native plant species may also alter natural fire regimes which can further destroy native plant communities leaving soils increasingly vulnerable to natural erosional processes. As a result, erosion rates could be elevated over the landscape when compared to conditions under a desired plant community. Areas that would experience these impacts first would be those areas already identified through the 2013 Land Health Assessment in the NE Spear allotment as “not meeting” (260 acres) PLHS-1 and PLHS-5. Consequently, soils and watershed values adjacent to areas existing in a degraded condition would become increasingly vulnerable to deterioration. As a result, the number of acres no longer meeting PLHS-1 is anticipated to be static or increase from current conditions under the no-action alternative (greater than or equal to 260 acres not meeting PLHS-1 and PLHS-5).

Logan End Common Allotment: The Logan End Common allotment was not identified to have any issues related to livestock grazing through the 2013 BLM LHA. Ecological Site Inventory completed by BLM in 2009 found the current grazing use to be sufficient to sustain both resources and resources uses (livestock grazing). Therefore continuation of the current grazing schedule in this allotment is not anticipated to negatively impact watershed values. All public lands in the Logan End allotment (1,494 acres) would continue to meet PLHS-5 under the No-Action alternative.

Cumulative Effects:

Continued grazing under current conditions combined with effects from fluid mineral development, recreation, and poor past management (historic grazing), drought, and invasive species could result in degradation to watershed health as outlined above for each allotment. The amount of degradation (acres not meeting PLHS-5) resulting from cumulative impacts could result in more acres not meeting PLHS-5 when compared to the current condition. The Dry Fork portion of stream segment 14c would remain impaired for selenium until re-assessment of water quality in Dry Fork by the State justifies a change.

Finding on Public Land Health Standard 5:

Currently only the Dry Fork portion of stream segment 14c does not meet State water quality standards. However, the nature of this impairment is largely due to influences outside BLM's control as described above.

No other water quality stream segments in the affected allotments were identified as being impaired by the State. However, as noted above BLM land health evaluations in 2013 reported localized areas within the allotment boundaries were observed to be lacking proper hydrologic function and were identified as not meeting soil health standards (see Tables 3.2.1-S-2 through 3.2.1-S-4). Watershed health and water quality are intricately tied to the soil and vegetative health. Therefore, where soil health standard 1 is compromised due to lack of perennial plant diversity and cheat grass invasion, water quality (PLHS-5) may also begin to deteriorate.

Proposed Action:

NE Spear Allotment: Under the Proposed action alternative the intensity and season of use would be modified from current conditions as outlined in Table 2.2.3-2. The 2009 Ecological Site Inventory and 2013 Land Health Assessments both conclude that changes in grazing management were needed to allow for recovery of damaged vegetation resources which were a product of historic grazing, drought, and cheatgrass invasion. Under the proposed action, total AUMs would be reduced by roughly 81% and grazing during the spring and fall would not occur together in any given year. Furthermore, spring grazing would not be extended beyond May 15th (unless climatic and/or rangeland conditions warrant an exception) providing necessary rest from livestock grazing during the critical spring growing period. Rest from livestock grazing during the critical spring growing season and combined fall grazing would help preserve the health and vigor of vegetative communities' consequently preserving soil stabilizing agents, reducing soil erosion and promoting improved water quality.

Under the proposed action the 976 acres (15% of the total acreage) mapped as not meet PLHS-5 would likely see measurable improvements over time. Vegetative communities in these areas would experience regular rest from grazing during the critical spring growing season which would improve vegetative health and vigor while also enhancing soil stabilization and nutrient cycling over time. As a result, the proposed action could contribute towards improvement to public land health throughout the entire allotment. The number of acres identified as not-meeting PLHS-5 could be reduced from current conditions (less than 15 % of total acres would be identified as not meeting). However, climatic conditions, severity of existing degradation, and effectiveness of weed treatment efforts would all be variables affecting the degree of success and the number of acres potentially improved through this action. The Dry Fork portion of stream segment 14c would remain impaired for selenium until re-assessment of water quality in Dry Fork by the State justifies a change.

West Logan Wash Allotment: No changes from current livestock management for the West Logan Wash allotment are identified under the proposed action. Therefore the impacts are the same as outlined above under the No-Action alternative. The number of acres no longer meeting PLHS-5 is anticipated to be static or increase from current conditions under the Proposed Action alternative (greater than or equal to 260 acres not meeting PLHS-1).

Logan End Common Allotment: The Logan End Common allotment was not identified to have any issues related to livestock grazing through the 2013 BLM LHA. Ecological Site Inventory completed by BLM in 2009 found the current grazing use to be sufficient to sustain both resources and resources uses (livestock grazing). Therefore continuation of the current grazing schedule as outlined in the proposed action is not anticipated to negatively impact water quality. All public lands in the Logan End allotment (1,494 acres) would continue to meet PLHS-1 under the Proposed Action alternative.

Cumulative Effects:

NE Spear Allotment: Through implementation of the proposed grazing management plan for the NE Spear allotment, vegetative communities would be closely monitored and grazing intensity or season of use would be modified to protect soil resources and water quality. Other land uses such as fluid mineral development would continue to have the potential to negatively impact water quality. However, water quality degradation would be less vulnerable to other actions with successful implementation of the new term grazing permit. Areas currently mapped as not meeting for PLHS-5 would be more likely to recover under the proposed action and favorable climatic conditions. Over time the percentage of acres within the allotment boundary identified as not meeting or meeting with problems could be reduced below 15%.

West Logan Wash/Logan End Common: Cumulative impacts would be same as outlined in the No-Action alternative.

Protective/Mitigation Measures (all allotments):

See soils section.

No Livestock Grazing

No livestock grazing would occur. Potential to defoliate desirable plant species during the critical growing seasons would be reduced to those impacts associated with wildlife use which has not been identified as a significant factor per Land Health Assessments. Increased vigor and health of vegetative communities would better protect soils and would preserve water quality.

Finding on Public Land Health Standard 5:

Soil and vegetative health would improve in the absence of livestock grazing. However, the Dry Fork portion of stream segment 14c would remain impaired for selenium until re-assessment by the State dictates a change.

Cumulative Effects:

The No Grazing alternative would benefit vegetation and soils which are both key factors in preserving watershed function and water quality. Improved range conditions within the allotment would contribute incrementally towards water quality improvements.

3.3 BIOLOGICAL RESOURCES

3.3.1 Invasive, Non-native Species#

Current Conditions:

All of these allotments were inventoried for noxious weeds during the 2004 field season by BLM weed management staff. The focus of the survey was weeds listed on the Colorado Noxious weed list in categories “A” and “B”. Weeds listed as “C”, such as cheatgrass were not mapped. In general, the allotments had few established patches of noxious weeds, but a few were identified mostly around ponds and along roadsides. The Logan End allotment contains patches of houndstongue, typical of the higher elevation Book Cliffs area. Scattered Russian knapweed and musk thistle were also found in the other allotments. NE Spears, and W. Logan have had treatments by BLM crews targeting the Russian knapweed. In general, the lower elevations have varying amounts of cheatgrass and other weedy annuals, with higher amounts growing in wet years.

No Action:

Impacts under the No Action alternative would be similar to the Proposed Action, except that establishment and spreading weeds would likely remain stable, or possibly increase in areas that are not meeting land health standards.

Cumulative Effects:

Cumulative impacts from livestock grazing on invasive and non-native weed species would likely remain similar to existing conditions under this alternative.

Proposed Action:

The proposed action addresses vegetation and weed issues by making adjustments and establishing guidelines to sustain desirable plant communities. It is likely that with good grazing practices and proactive weed management that these allotments would remain static or improve over time. The permittee(s) are key partners in a weed management program.

Cumulative Effects:

Similarly, sound grazing management and proactive weed management must occur indefinitely over the broad landscape in order to sustain healthy and viable plant communities.

No Livestock Grazing:

Livestock and livestock management activities (range improvements) are a vector for the introduction and spread of noxious weeds, but they are not the only vectors. Vehicle traffic, wildlife, wind, and fire are also disturbances which give weeds an opportunity to become established. In the short-term, it would be difficult to ascertain whether there was any improvement from a weed perspective if cattle were removed. In the long-term, one may surmise that there could be improvement, assuming other vectors don't increase.

Cumulative Effects:

From a purist perspective, if cattle grazing ceased over the broad landscape, it could be surmised that weed issues would decrease because a vector was removed.

3.3.2 Threatened, Endangered and Sensitive Species (includes a finding on Standard 4)

Current conditions:

The Logan End Common allotment includes general habitat for the greater sage-grouse, other species likely to occur on these three allotments include peregrine falcon, golden eagle, and numerous migratory birds. Habitat for these species on BLM lands are generally in good condition though oil and gas activity on the BLM and adjacent private lands has resulted in habitat fragmentation in the area.

The NE Spears allotment is within designated DeBeque phacelia critical habitat, and contains numerous occurrences of the Federally Threatened species. The allotment also contains the Federally Threatened Colorado hookless cactus. Additionally, a small corner of designated Parachute penstemon critical habitat overlaps the allotment boundary on the west side. The southern portion of the allotment contains Adobe thistle in the barren clayey soils along the main access route off of Dry Fork Road. Approximately 1,500 acres within this allotment have been surveyed for rare plants.

The West Logan Wash allotment contains Colorado hookless cactus and Adobe thistle. Marginal habitat for the DeBeque phacelia has been recorded in the allotment, however the habitat is not known to be occupied. Approximately 1,181 acres within the West Logan Wash allotment have been surveyed for rare plants. This allotment is highly fragmented by oil and gas development.

The Logan End Common allotment is within designated Parachute penstemon critical habitat, and contains at least one known population of the Federally Threatened species. The Parachute penstemon is typically found on the steep shaley slopes of the Parachute Creek Member of the Green River Formation, at elevations between 8,000 and 9,000 feet. The grazing allotment contains numerous areas of suitable habitat; however surveys are difficult to complete due to the steep and remote nature of terrain that provides habitat for this species. Few penstemon surveys in the Logan End Common allotment have been completed, however the habitat is typically self-protecting from livestock as the shale slopes are sparsely vegetated, and extremely steep.

Finding on Public Land Health Standard 4:

A formal land health assessment was conducted by BLM in 2013 for the Roan and Carr Creek area which included the NE Spears, West Logan Wash, and Logan End Common allotments. Results of this assessment are displayed in Tables 3.3.2-1 through 3.3.2-3 below. Overall, Standard 4 was being met within the NE Spear and Logan End Common allotments for Threatened, Endangered, and Sensitive Species. Conditions in the West Logan Wash allotment were poor in the drainage bottom, and the majority of the allotment was not meeting Standard 4. As stated in the soils section, areas not meeting Standard 4 are primarily attributable to a

combination of bare ground, poor past management, cheatgrass, evidence of erosion above what would naturally be expected for a given ecological site, poor plant cover, and drought.

Table 3.3.2-1: Finding on PLHS-4 within NE Spear Allotment

| Finding on PLHS-1 | Acres | % of Allotment | Comments |
|------------------------------|--------------|-----------------------|---|
| <i>Not-meeting</i> | 5 | 0% | Very poor diversity in native perennial plant community, lack of diversity in the understory. Poor vigor and seed head production, increased soil loss, poor plant cover. |
| <i>Meeting with Problems</i> | 970 | 15% | Very poor diversity in native perennial plant community, low vigor and seed head production, increased soil loss. |
| <i>Meeting</i> | 5,349 | 85% | No rills due to channery makeup, little erosion. |

Table data from BLM Roan/Carr Creek Land Health Assessment (BLM. 2013).

Table 3.3.2-2: Finding on PLHS-4 within West Logan Wash Allotment

| Finding on PLHS-1 | Acres | % of Allotment | Comments |
|------------------------------|--------------|-----------------------|--|
| <i>Not-meeting</i> | 260 | 60% | 58% bare ground and surface erosion, soils being lost off site. Poor past management and drought impacts. Cheatgrass present, native plant community lacking diversity. No recent livestock use was noted. |
| <i>Meeting with Problems</i> | 0 | 0% | N/A |
| <i>Meeting</i> | 167 | 40% | None |

Table data from BLM Roan/Carr Creek Land Health Assessment (BLM. 2013).

Table 3.3.2-3: Finding on PLHS-4 within Logan End Common Allotment

| Finding on PLHS-1 | Acres | % of Allotment | Comments |
|------------------------------|--------------|-----------------------|--|
| <i>Not-meeting</i> | 0 | 0% | N/A |
| <i>Meeting with Problems</i> | 0 | 0% | N/A |
| <i>Meeting</i> | 1,494 | 100% | Stable and well vegetated, good diversity, production and reproduction, good healthy habitat. Native plant communities are stable. |

Table data from BLM Roan/Carr Creek Land Health Assessment (BLM. 2013).

No Action:

Under the no action alternative no changes to current livestock grazing would be made. Two seasons of grazing per year would continue on the NE Spear Allotment. Under current

management the vegetation community and special status species habitat on the NE Spear Allotment is given limited time to recover between grazing seasons, limiting the opportunity for regrowth. Listed plants would be subjected to grazing pressures during the blooming season. Continuation of Current grazing practices on the West Logan Wash and Logan End Common are not believed to be negatively impacting special status species, including the greater sage-grouse habitat, however continuation of the No Action alternative would not incorporate proposed best management practices and other stipulations on the permit expected to assist in future habitat management. The West Logan Wash Allotment would be grazed during the last week in May, overlapping the Colorado hookless cactus blooming season. The Adobe thistle would continue to be exposed to livestock grazing while in bloom. The Land Health Assessment noted livestock herbivory impacts on this species (flower heads bitten off/entirely removed). Special Status species habitat trends attributed to grazing would be static over time, with no improvement expected.

Cumulative Effects:

Under the No Action Alternative additional BMPs for special status species and changes to season of use would not be implemented. Cumulatively, grazing coupled with ongoing energy development could result in failed reclamation projects, as livestock would be drawn to the newly seeded areas, and plants would not be given the opportunity to establish. This in turn could contribute to an increase in weeds, and a downward vegetative trend, negatively impacting sensitive wildlife, fish, and the native plant community that rare plants are dependent upon for survival.

Finding on Public Land Health Standard 4:

No improvement in the condition of the habitat and the ability of the allotment to meet Public Land Health Standard for Threatened and Endangered for special status plants and fish and wildlife would be expected under this alternative; the anticipated improvement would be less than that of the Proposed Action. In areas not meeting Standard 4, progress towards meeting would not be anticipated.

Proposed Action:

The proposed action addresses special status species issues by making adjustments and establishing guidelines to sustain desirable plant communities. The NE Spear Allotment would be limited to one season of use per year, with a limit of two consecutive spring grazing periods; in addition livestock numbers would be reduced. Livestock grazing during the blooming period would continue, but the Proposed Action would provide for rest from spring grazing at least every two years, and the spring grazing period would be shortened by two weeks. The NE Spear and Logan End Common Allotments would be rested until range projects were maintained (water developments). The Terms and Conditions of the permits would require coordination between the rancher and BLM on project maintenance to ensure that those activities did not impact listed plants and general habitat conditions. No changes in the AUMs or grazing period would occur on the West Logan Wash and Logan End Common Allotments. While the West Logan Wash Allotment would primarily be used for trailing, impacts to cactus are possible. However, the majority of recorded cacti are outside of the heavily utilized areas. Over time conditions on the NE Spear Allotment relative to grazing are expected to maintain static or

improve. No changes to habitat are expected on the West Logan Wash or Logan End Common allotments, as no changes to the timing of livestock grazing, or AUMs would occur.

Cumulative Effects:

Under the Proposed Action Alternative additional BMPs for special status species and changes to season of use would be implemented. These changes are expected to positively influence special status species habitat over time by decreasing grazing pressure during the growing season and increasing regrowth times between grazing, subsequently leading to increases in the native seed bank. While Oil & Gas development and impacts are anticipated to continue in the De Beque area, the reduction in grazing pressure would benefit restoration projects, decreasing the potential of livestock congregating on newly seeded areas.

Weed spread would be anticipated to slightly decrease, as fewer head of livestock would be permitted on the NE Spear Allotment. Cumulative Effects for the West Logan Wash and Logan End Common Allotments would be similar to those under the No Action Alternative, as no changes to the grazing period or AUMs are proposed for those allotments.

Finding on Public Land Health Standard 4:

The proposed action is expected to increase the ability of the area to meet Public Land Health Standard for Sensitive Species on the NE Spear Allotment. No changes to Land Health Standard 4 are expected on the West Logan Wash or Logan End Common allotments, as no changes to the grazing permit (timing & AUMS) is proposed.

No Livestock Grazing

Under the no grazing alternative negative impacts to special status species may occur if water sources are not maintained. Impacts as a result of reduced ground cover would be minimized as only wildlife grazing would be occurring on the allotment. Overall impacts such as trampling, and the selective grazing of perennial grasses would be reduced under this alternative.

Cumulative Effects:

Cumulative effects of wildlife use would continue however there would be no effects from domestic livestock. The overall reduction of grazing pressure would benefit the native plant community which special status species are dependent upon. Oil and gas development and the associated impacts would continue under this alternative.

Public Land Health Standard for TES species:

The no grazing alternative may improve the areas ability to meet land health standard 4 for TES species. While Land Health problems such as poor diversity in native perennials and an abundance of weedy species, would not remedied alone by the removal of livestock, the native seed bank would be expected to incrementally improve over time.

3.3.3 Vegetation (grasslands, forest management) (includes a finding on Standard 3)

Current conditions:

N.E. Spear allotment is primarily comprised of five different ecological (range) sites which are illustrated in Table 3.3.3-1; however it is mainly dominated by the Foothill Juniper vegetation

community. In addition there are approximately 1,464 acres of unclassified landscape in this allotment. With the exception of a few forbs and shrubs, this vegetation type is almost devoid of an understory. There are also numerous sagebrush parks located within the allotment. Similar to the juniper sites, the presence of perennial grasses in the sagebrush parks is very limited. The sagebrush parks are aging and have a cheatgrass understory. The allotments last read study plots in 2011 indicated the area was in static condition and had improved condition from the 2007 monitoring. The monitoring also indicated that this area has not been grazed for numerous years. Past Ecological Site Inventory studies, historic monitoring notes, and past allotment visits have all confirmed the need to reduce AUMs and alter the timing of grazing. The Proposed Action and Rangeland Management sections contain further detail about the proposed management changes.

Table 3.3.3-1
Plant Communities and Dominant Plant Species for Ecological Sites for the N.E. Spear Allotment:

| ECOLOGICAL SITE / WOODLAND TYPE | PLANT COMMUNITY APPEARANCE | ACRES | PREDOMINANT PLANT SPECIES IN THE PLANT COMMUNITY |
|---------------------------------|----------------------------|-------|---|
| Foothill Juniper | Juniper Woodland | 3,818 | Utah juniper with sparse understory of ricegrass, galleta, squirreltail |
| Semi-Desert Clay | Desert Shrub | 154 | Needle and thread, bottlebrush cheatgrass, wheatgrasses, bluegrasses |
| Semi-Desert Clay Loam | Desert Shrub | 856 | Needle and thread, bottlebrush cheatgrass, wheatgrasses, bluegrasses |
| Brushy Loam | Desert Shrub | 66 | Big sagebrush, cheatgrass, galleta, Needle and thread, bottlebrush, wheatgrasses, bluegrasses |
| Rolling Loam | Desert Shrub | 56 | Big sagebrush, cheatgrass, wheatgrasses, galleta, blue grama |
| UNC | Steep Slopes | 1,464 | ----- |

West Logan Wash vegetation communities are primarily comprised Foothill Juniper and Rolling Loam vegetation types, with an under story of cheatgrass and galleta grass.

Table 3.3.3-3
Plant Communities and Dominant Plant Species for Ecological Sites for the N.E. Spear Allotment:

| ECOLOGICAL SITE / WOODLAND TYPE | PLANT COMMUNITY APPEARANCE | ACRES | PREDOMINANT PLANT SPECIES IN THE PLANT COMMUNITY |
|---------------------------------|----------------------------|-------|---|
| Foothill Juniper | Juniper Woodland | 167 | Utah juniper with sparse understory of ricegrass, galleta, squirreltail |
| Rolling Loam | Desert Shrub | 261 | Big sagebrush, cheatgrass, wheatgrasses, galleta, blue grama |

The BLM land of Logan End Common allotment is dominated mostly by Mountain Loam and steep slopes and is predominately private land. The table below represents the ecological site and associated plant species and acres. The last monitoring study for this area was completed in 2005. Two plots were read during the 2005 monitoring and both of them indicated that the allotment was in an upward trend, and that conditions had improved from the last frequency and trend reading completed in 2002.

Table 3.3.3-3
Plant Communities and Dominant Plant Species for Ecological Sites for the N.E. Spear Allotment:

| ECOLOGICAL SITE / WOODLAND TYPE | PLANT COMMUNITY APPEARANCE | ACRES | PREDOMINANT PLANT SPECIES IN THE PLANT COMMUNITY |
|---------------------------------|----------------------------|-------|--|
| Foothill Juniper | Juniper Woodland | 154 | Utah juniper with sparse understory of ricegrass, galleta, squirreltail |
| Pinyon/Juniper Unspecified | Desert Shrub | 86 | Utah juniper, pinyon pine with sparse understory of ricegrass, galleta, squirreltail |
| Mountain Loam/Loam Slopes | Desert Shrub | 428 | Sagebrush, mountain mohogany, Needle and thread, bottlebrush cheatgrass, wheatgrasses, bluegrasses |
| Mountain Loam | Desert Shrub | 378 | Big sagebrush, cheatgrass, galleta, Needle and thread, bottlebrush, wheatgrasses, bluegrasses |
| Brushy Loam | Desert Shrub | 47 | Big sagebrush, cheatgrass, wheatgrasses, galleta, blue grama |
| Steep Colluvial Slopes | Steep Slopes | 403 | ----- |

No Action:

Under the No Action Alternative, grazing schedules for all allotments would remain the same and vegetation conditions would be expected to remain static; however conditions may improve depending on the timing and levels of precipitation received in the allotments. Under this alternative reductions and timing changes to N.E. Spear allotment would not occur. There would also be a chance of further negative impacts to resources, such as poor water development management for both cattle and wildlife. Additionally, AUM levels would remain the same and could potentially negatively impact land health in the long-term.

Public Land Health Standard 3 (N.E. Spear, West Logan Wash and Logan End Common allotments)

Under the No Action Alternative, the health of vegetation communities is expected to remain static or to improve, depending on precipitation levels and drought conditions. Land Health is also expected to continue to meet standards under the No Action alternative.

Cumulative Effects:

Impacts on vegetation from livestock grazing and wildlife would be the main uses on these allotments. Vegetation properties are expected to remain stable as the livestock grazing is monitored and maintained at current grazing schedules. Cumulative impacts to vegetation would be minimal over most of the allotment, and would be low to moderate in small localized areas (e.g. water ponds, trails), such as areas where both cattle and recreationists congregate. Higher levels of interactions between cattle and recreationist are expected to occur primarily during the month of May.

Proposed Action:

No AUM reductions or timing changes are proposed in West Logan Wash (06752) and Logan End Common (06732) allotments; however the N.E. Spear (06718) allotment AUMs would be reduced in accordance with BLM Land Health Assessments, ESI studies, and range monitoring findings. The proposed action would continue to promote grazing at sustainable utilization levels at estimated livestock carrying capacities. On those sites that are not meeting standards, little improvement is expected, as these vegetation types have crossed a threshold where changes in grazing management alone is not expected to repair these areas. A key element to management of rangelands is the continued use of monitoring studies to document vegetation use, condition, and trend. Rangeland monitoring provide the basis for implementing the vegetation decisions of the Grand Junction ROD/RMP, through development of range improvements, determining carrying capacity, and modifying periods of use and livestock numbers.

Finding on Public Land Health Standard 3:

With AUM reductions, proposed timing changes, and additional terms and conditions, there should be increases in the vegetative community health and productivity, and reduced impacts to this land health standard 3.

Cumulative Effects:

It is likely that overall vegetative health would increase with the proposed management changes. Reduced numbers of AUMs would help to decrease grazing pressure on over utilized areas. The reduction in authorized use described in the proposed action should improve plant vigor and seedling establishment of desired species, resulting in an improvement in overall rangeland health conditions. Decreasing grazing pressure on forage plants would also help to increase seed production, plant vigor, and increase composition and cover of desirable natives. A primary focus of the grazing strategy is to utilize an area during only one growing season per year, which would provide periodic rest from grazing. It is fully expected that as rangelands improve the carrying capacity would increase, and increased AUMs could be offered to the grazing permittee. The process for determining increased AUMs would be through the allotment monitoring program. Utilization monitoring and mapping would be used to track forage use and livestock distribution. Trend monitoring would also be used to assess changes in the plant communities relative to plant cover and composition. ESI would be completed if and when the utilization and trend monitoring indicate changes in the plant communities that warrant re-assessment of transects. ESI also provides data on plant composition and the seral stage of the plant community.

No Livestock Grazing:

In general terms, elimination of livestock grazing is expected to increase the cover and composition of vegetation in the allotments. Under this alternative, forage species would not be grazed and would have optimal opportunity for growth, reproduction, and carbohydrate storage. Mid-seral plant communities would also advance toward the climax communities. This would not affect those plant communities which are already at climax or late seral stage. The desert shrub plant communities in early seral stage are not expected to develop into a climax community, if they change at all. The competitive advantage of the annual species is expected to prevent this change.

As fine fuels increase the frequency of fire would also increase, shifting the pinyon-juniper woodland type to pre-settlement distribution. On the Desert pasture the fine fuels are expected to include cheatgrass as well as other annual grasses and forbs. Fires in the desert shrub community would be highly destructive and result in removing the native shrubs and increasing the dominance of annual grasses.

Cumulative Effects:

Under this alternative there would be no cumulative effect from livestock grazing, because livestock grazing would no longer occur. Maintenance of water and fence projects would also no longer occur, which would lead to deterioration of fences and administration boundaries and developed wildlife water sources would also deteriorate. Grazing by deer and elk would continue in the allotments, but would have minimal on vegetation. Recreation activities would continue on existing trails, resulting in low impacts to vegetation except in small areas where people congregate. In these small areas impacts would be low to moderate.

Public Land Health Standard 3 (for plant and animal communities):

Under the No Livestock Grazing Alternative, vegetation communities would be expected to improve but may remain static through continuing drought and invasive cheatgrass conditions.

3.3.4 Wildlife (includes fish, aquatic and terrestrial) (includes a finding on Standard 3)

Current conditions:

These three allotments all contain critical and sever winter range for deer and elk. Migratory birds of conservation concern likely to occur on the allotments include brewers sparrow, gray vireo, juniper titmouse, bald eagle, peregrine falcon, and pinyon jay. Other wildlife species likely to occur on the allotments include mountain lion, black bear, and turkey. Habitat on BLM lands are generally in good condition and habitat for wildlife is meeting land health standards, although oil and gas activity on the BLM and adjacent private lands has resulted in habitat fragmentation in the area. The allotments do not contain any fish bearing streams nor is grazing management on these allotments expected to influence adjacent fish bearing streams.

No Action:

Under the no action alternative no changes to current livestock grazing would be made. Two seasons of grazing per year would continue on the NE Spear Allotment. Under current management the vegetation community and special status species habitat on the NE Spear Allotment is given limited time to recover between grazing seasons, limiting the opportunity for

regrowth. Continuation of the No Action alternative would not incorporate proposed best management practices and other stipulations on the permit expected to assist in future habitat management. Wildlife habitat trends attributed to livestock grazing would be static over time.

Cumulative Effects:

Under the No Action Alternative additional BMPs for special status species and changes to season of use would not be implemented. Cumulatively, grazing coupled with ongoing energy development could result in failed reclamation projects, as livestock would be drawn to the newly seeded areas, and plants would not be given the opportunity to establish. This in turn could contribute to an increase in weeds, and a downward vegetative trend, negatively impacting wildlife habitat.

Finding on Public Land Health Standard 3(Animals):

Public Land Health Standards for animals would be expected to remain static under this alternative.

Proposed Action:

The proposed action includes BMP's and changes to seasons of use which address wildlife habitat by making adjustments and establishing guidelines to sustain desirable plant communities. The NE Spear Allotment would be limited to one season of use per year, with a limit of two consecutive spring grazing periods; in addition livestock numbers would be reduced. No changes in the AUMs or grazing period would occur on the West Logan Wash and Logan End Common Allotments; however the same BMP's would be incorporated into these Allotment management plans. Because of these changes habitat conditions on the allotment relative to grazing are expected to maintain static or improve over time.

Cumulative Effects:

Under Proposed Action Alternative additional BMPs for special status species and changes to season of use would be implemented. These changes are expected to positively influence wildlife habitat over time by decreasing grazing pressure during the growing season and increasing regrowth times between grazing, subsequently leading to increases in the native seed bank. While Oil and gas development and impacts are anticipated to continue in the De Beque area, the reduction in grazing pressure would benefit restoration projects, decreasing the potential of livestock congregating on newly seeded areas.

Finding on Public Land Health Standard 3(Animals):

Public Land Health Standards for animals would be expected to remain static or improve under this alternative.

No Livestock Grazing

Under the no grazing alternative impacts to wildlife species may occur if water sources are not maintained by reducing available water for wildlife. Impacts as a result of reduced ground cover would be minimized as only wildlife grazing would be occurring on the allotment. In addition the potential for migratory bird nests to be impacted through physical disturbance by cattle would be eliminated but nests could still be impacted by wildlife, and competition for forage between grazing wildlife and cattle would be eliminated.

Cumulative Effects:

Cumulative effects on the habitat from wildlife use would continue, but future impacts from livestock would be removed.

Public Land Health Standard 3 (for plant and animal communities): The no grazing alternative is not expected to impact the areas ability to meet land health standard 3 for fish and wildlife species.

3.4 HERITAGE RESOURCES AND HUMAN ENVIRONMENT

3.4.1 Cultural Resources

Current Conditions:

Range permit renewals are undertakings under Section 106 of the National Historic Preservation Act. For the purposes of Section 106 review, a cultural resource assessment of allotments in the GJFO began in 1999 and was completed in 2009 reviewing existing site and survey information to compare against the results of other known literature reviews conducted for grazing evaluation. A Class I assessment synthesizing ten years of permit renewal evaluations of 240 grazing allotments managed by GJFO was completed for the BLM by Grand River Institute (GJFO-CRIR 1109-09; Conner & Darnell 2009), which updated and upgraded the previous 5 year grazing permit renewal synthesis (McDonald 2003).

The allotments assessed by this document are in Physiographic Unit G located west of the Colorado River, and adjacent to either side of Roan Creek (the Roan Cliffs area). The physiographic unit is roughly the same as the 2003 synthesis. By 2009 thirty five allotments had been previously evaluated and approximately 9,140 acres or 10.5 percent of the allotments have had cultural resource inventory completed on BLM lands. Based on previous inventory the average site/acre ratio in this area is 1:123 (2009:41-43). High density appears to be the result of inventories associated with spring developments and associated historic homesteads or other historic sites. Low density appears to be the result of depositional environment and aspect, with north slopes and high exposed ridges resulting in fewer sites.

The direct impacts that occur 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. Broader indirect impacts from the cattle include soil erosion and gullyng. Indirect impacts from increased access, resulting from upgrades to roads and trails, may result in increased potential for unlawful collection and vandalism. Concentrated livestock grazing use may cause substantial ground disturbance and cause cumulative, long term, irreversible adverse effects to historic properties. Specific allotments and their cultural resource management needs are discussed below:

Table 3.4.1-1: NE Spear Grazing Allotment #06718:

| Allotment Name and Number | # of Previous Class III Inventories /Acres | Prehistoric Sites and NRHP Eligibility | Prehistoric Cultural Affiliation | Historic Euro-American Sites and NRHP Eligibility | # of Pre-historic Isolated Finds | # of Historic Isolated Finds |
|---------------------------|--|--|----------------------------------|---|----------------------------------|------------------------------|
| NE Spears 06718 | 31 inventories/ 1,716 acres | 5GF435 - NE | UTE | 5GF3981.1 - ND | 15 | 1 |
| | | 5GF436 - ND | Prehistoric | 5GF3982.1 - ND | | |
| | | 5GF437 - NE | Prehistoric | 5GF963 - ND | | |
| | | 5GF874 - ND | Prehistoric | | | |

* E - Eligible, NE - Not Eligible, ND - Need Data, further evaluation to determine eligibility.

The prehistoric sites consist of four open lithic site(s) (5GF435, 5GF436, 5GF437, and 5GF874) and no features or depth appears to have been found by the recorders. One of the prehistoric sites is likely Ute, based on the projectile point type found there (5GF435). Sites 5GF435 and 5GF437 are field determined as not eligible to the National Register of Historic Places (NRHP). Sites 5GF436 and 5GF874 are determined to be potentially eligible (needs data) as far as eligibility to the NRHP is concerned. The historic sites consist of a homestead (5GF963) and two ditches (5GF3981.1 and 5GF3982.1). All three historic sites are field needs data. Only 5GF435 is located on public land, and the rest are located on private land. No Paleontological sites have been recorded in the surveyed area. None of the sites were formally determined for their eligibility to the National Register of Historic Places (NRHP) through consultation with the State Historic Preservation Officer (SHPO). No sites have been recorded in areas where cattle concentrate although none of the pond surveys were conducted by a qualified archaeologist or surveyed to a large enough area to be considered to current standard. Because of the nature of the environment, and the sites on adjacent allotments that have been evaluated, it is recommended that no known cultural properties eligible to the NRHP would be affected by the renewal of this permit.

Table 3.4.1-2

| Allotment # | Acres Inventoried at Class III level | Acres NOT Inventoried at Class III level | % of Allotment Inventoried (all survey) | # Cultural Resources known in allotment | Potential of Historic Properties (yes/no) | Recommended Management (Inventory Required & Sites to visit) |
|-----------------|---|---|---|---|---|--|
| NE Spear #06718 | 1369 BLM 347 Private (1716 Total) | 1,593 acres 22 surveys not to current standard 8 to standard at 123 acres | 22% of the total allotment. (21% BLM) (25% Private) | 7 | No | To standard inventory should be completed (minimum of 5 acres) around at least 10% of ponds by the end of the permit term. |

Within this allotment, there are no eligible properties to be monitored to assess condition and integrity. Standard operating procedure is that if newly discovered historic properties are identified on BLM lands, the BLM will evaluate the sites. One condition for conducting any pond maintenance should be the requirement of additional inventory of the area surrounding the immediate pond site. Original evaluation of the ponds by the range technician as para-archaeologist was only the immediate construction footprint, often less than 0.1 acre.

Table 3.4.1-3: Pond cultural inventory status within the NE Spears allotment

| Range Improvement (RI) # | Needs Survey & Sec 106 | Name & Location | Cultural Survey CRIR # | Cultural Resources Less than 400m (1/4 mile) from RI | Comment |
|---------------------------------|-----------------------------------|----------------------------|-------------------------------|---|---|
| 270345 | Yes | Prather Reservoir 2 | None | None known | Built in 1959 |
| 270344 | Yes | Prather Reservoir 1 | None | None known | Built in 1959 |
| 271200 | Some | NE Spear Pond | 1089-04 782-11 | None known | Built in 1989 Some existing survey not to standard (NTS) |
| 271101 | Yes | Burn Pond | 1085-26 | None known | Built in 1987 Existing survey NTS |
| 271104 | Yes | Old Pond | 782-23 1085-28 | None known | Built in 1986 Existing survey NTS |
| 271102 | Some | Stoney Pond | 1085-30 1494-01 | None known | Built in 1986 Some existing survey NTS |
| 271105 | Yes | Road Pond | 1085-29 782-23 | None known | Built in 1986 Existing survey NTS |
| 270947 | Yes | Eye Retention Dam | None | None known | Built in 1967 |
| 271103 | Yes | Silt Pond | 1085-27 | None known | Built in 1986 Existing survey NTS |

Table 3.4.1-4: Logan End Common Allotment #06732

| Allotment Name and # | # of Previous Class III Inventories/Acres | # of Prehistoric Sites & NRHP Eligibility * | Cultural Affiliation | # of Historic Sites | # of Prehistoric Isolated Finds | # of Historic Isolated Finds |
|-----------------------------|--|--|-----------------------------|-----------------------------|--|-------------------------------------|
| Logan End Common # 06732 | 12 surveys/ 635 acres BLM | none | n/a | 1 – Eligible but not extant | none | none |

* E - Eligible, NE - Not Eligible, ND - Need Data, further evaluation to determine eligibility.

No prehistoric sites have been recorded on any of the surveys, whether they were completed to Class III standard or not. One linear historic site, 5ME817, is shown on the cultural plat map but no segments are listed in the site record for this area. It is the Escalante-Dominguez and Ute trail which is not extant in the allotment. The Office of Archaeology and Historic Preservation web database shows the site as recommended Eligible for nomination to the National Register of Historic Places, but it is not extant and therefore no further investigation is recommended.

Table 3.4.1-5

| Allotment # | Acres Inventoried at Class III level | Acres NOT Inventoried at Class III level | % of Allotment Inventoried (all survey) | # Cultural Resources known in allotment | Potential of Historic Properties (yes/no) | Recommended Management (Inventory Required & Sites to visit) |
|-------------------------|---------------------------------------|--|--|---|---|--|
| Logan End Common #06732 | 380 BLM 255 Private (635 Total) | 515 acres 5 surveys not to current standard 7 to standard at 120 acres | 14% of the total allotment. (23% BLM) (9% Private) | 1 | No | No additional cultural inventory is recommended. |

No additional cultural inventory is recommended on this allotment. Standard operating procedure is that if newly discovered historic properties are identified on BLM lands, the BLM will evaluate the sites. If the BLM determines that grazing activities would adversely impact any historic properties mitigation would be identified and implemented in consultation with the Colorado SHPO within the ten-year period of the permit. The livestock impacts to these historic properties would be assessed within the ten-year period of the permit.

Table 3.4.1-6: West Logan Wash Allotment #06752

| Allotment Name / # | # of Previous Class III inventories/ acres | # of Prehistoric Sites & NRHP Eligibility * | Cultural Affiliation | # of Historic Sites | # of Prehistoric Isolated Finds | # of Historic Isolated Finds |
|----------------------|--|---|----------------------|----------------------------|---------------------------------|------------------------------|
| W. Logan Wash #06752 | 19 surveys/ 336 acres BLM | 5GF174 - ND | unknown | 5ME817 - E but not present | 4 | none |

* E - Eligible, NE - Not Eligible, ND - Need Data, further evaluation to determine eligibility.

The one recorded prehistoric site (5GF174) found in this allotment is a large open camp from an undetermined cultural period. When this site was first recorded in 1974 it was described as impacted by grazing. The 2008 reevaluation of this site's study did not indicate any grazing impacts, which suggests that grazing practices may no longer be of concern to this cultural resource. One linear historic site, 5ME817, is shown on the cultural plat map but no segments are listed in the site record for this area. It is the Escalante-Dominguez and Ute trail which is not extant in the allotment. Site 5GF174 should be monitored for future impacts and reevaluated for eligibility to the NRHP before the next permit renewal in this allotment.

Table 3.4.1-7

| Allotment # | Acres Inventoried at Class III level | Acres NOT Inventoried at Class III level | % of Allotment Inventoried (all survey) | # Cultural Resources known in allotment | Potential of Historic Properties (yes/no) | Recommended Management (Inventory Required & Sites to visit) |
|------------------------|--------------------------------------|---|---|---|---|--|
| West Logan Wash #06752 | 336 BLM 37 Private (373 Total) | 257 acres 9 surveys not to current standard 10 to standard at 116 acres | 80% of the total allotment. (91% BLM) (93% Private) | 1 | No | Monitor 5GF174 |

No Action Alternative:

Under this alternative the current grazing routine would continue. There would be the direct or indirect effects to cultural resources from this alternative which would 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. Indirect impacts include soil erosion, gullyng, and increased potential for unlawful collection and vandalism from possible upgrades to roads and trails – though to a greater extent than the proposed action due to increased grazing on the NE Spear Allotment.

The standard operating procedure is that if newly discovered historic properties are identified on public lands managed by the BLM, then the BLM would evaluate the sites. If the BLM determines that grazing activities would adversely impact any historic properties mitigation would be identified and implemented in consultation with the Colorado SHPO within the ten-year period of the permit. The livestock impacts to these historic properties would be assessed within the ten-year period of the permit.

Cumulative Effects:

Continued grazing on these allotments may cause substantial ground disturbance and cause cumulative, long term, irreversible adverse effects to unrecorded historic properties.

Proposed Action:

The direct impacts that occur 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. Indirect impacts include soil erosion, gullyng, and increased potential for unlawful collection and vandalism from possible upgrades to roads and trails.

Original evaluation of the ponds by the range technician as para-archaeologist was only the immediate construction footprint, often less than 0.1 acre. Studies have shown that cattle congregate around ponds and this area of impact can often be as large as 5 acres or more depending on the environment and stocking level. As such, at least 10% of ponds within the allotment should be inventoried to at least 5 acres. Increasing the inventory area would help to account for cattle concentration and potential impacts to unknown sites near the ponds. This

inventory should occur before the end of the permit term. Additionally, if the BLM determines that grazing activities would adversely impact any historic properties mitigation would be identified and implemented in consultation with the Colorado SHPO within the ten-year period of the permit. The livestock impacts to these historic properties would be assessed within the ten-year period of the permit.

Cumulative Effects:

Continued grazing on these allotments may cause substantial ground disturbance and cause cumulative, long term, irreversible adverse effects to unrecorded historic properties. Changes in grazing practices or location of new improvements, or temporary installation of improvements such as salt or water troughs along pipelines could affect cultural resources.

Protective/Mitigation Measures:

Site 5GF174 should be monitored to establish its condition, and monitor the effect of the proposed action. The site should be monitored by the end of the permit term.

- The above pond table described in the NE Spears section identifies the results of the file search for NHPA compliance for water developments (areas where cattle congregate) and recommended new survey and consultation for section 106 for the area currently being used and a final determination of eligibility for previously recorded sites/IFs located within ¼ mile.
- The permittee is required to notify the BLM if any subsurface disturbance will occur for maintenance of any existing buried improvements (e.g. pipelines). Subsurface potential construction of range improvements where subsurface disturbance shall occur may require the presence of a BLM permitted contract archaeologist. If monitoring is required archaeological monitors are required to be with the equipment while it is working.

Standard stipulations to the permit include:

- It is the responsibility of the Permittee to inform all persons associated with work on federal lands subject to the permit that they would be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, activities would stop in the immediate area of the find, and the BLM Authorized Officer (AO) would be immediately contacted. Within five working days, the AO would inform the proponent as to:
 - whether the materials appear eligible for the NRHP,
 - the mitigation measures the proponent would likely have to undertake before the site could be used (assuming in situ preservation is not practicable), and
 - a timeframe for the AO to complete an expedited review under 36 CFR §800.11 to confirm, through the SHPO, that the AO's findings were correct and mitigation was appropriate.
- Surface disturbing range improvements associated with the allotment (e.g. fences, ponds) are subject to compliance requirements under Section 106 and will undergo standard

cultural resources inventory and evaluation procedures.

- If newly discovered cultural resources are identified during project implementation, work in that area should stop and the BLM Authorized Officer should be notified immediately (36 CFR §800.13).
- Notify the AO by telephone and with written confirmation, immediately upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Activities would stop in the immediate area of the find, and the discovery would be protected for 30 days or until notified to proceed in writing by the AO.
- Studies have shown that cattle congregate around ponds and this area of impact can often be as large as 5 acres or more depending on the environment and stocking level. As such, at least 10% of ponds within the allotment should be inventoried to at least 5 acres. Increasing the inventory area would help to account for cattle concentration and potential impacts to unknown sites near the ponds. This inventory should occur before the end of the permit term. Additionally, if the BLM determines that grazing activities would adversely impact any historic properties mitigation would be identified and implemented in consultation with the Colorado SHPO within the ten-year period of the permit. The livestock impacts to these historic properties would be assessed within the ten-year period of the permit.
- The standard operating procedure is that if newly discovered historic properties are identified on public lands managed by the BLM, then the BLM would evaluate the sites. If the BLM determines that grazing activities would adversely impact any historic properties mitigation would be identified and implemented in consultation with the Colorado SHPO within the ten-year period of the permit. The livestock impacts to these historic properties would be assessed within the ten-year period of the permit.

If the BLM determines that grazing activities will adversely impact any historic properties identified in the future, mitigation will be designed and implemented in consultation with the Colorado SHPO within the term period of the permit depending on which alternative is selected. The livestock impacts to these historic properties will be assessed within the term period of the permit.

No Grazing Alternative:

The removal of cattle from the allotments would eliminate the direct impacts described in the proposed action and eliminate those potential or actual impacts from cultural resources in the allotment, thus having a beneficial effect on cultural resources. Direct impacts from grazing are well documented, especially in areas where cattle congregate, and along with indirect impacts from removal of vegetation and subsequent erosion the impacts to cultural resources would no longer be attributable to grazing if the No Action alternative was selected.

Cumulative Effects:

If this alternative was selected it would increase the acreage where no grazing impacts to cultural resources would be attributed to cattle.

3.4.2 Tribal and Native American Religious Concerns

Current Conditions:

The Ute have a generalized concept of spiritual significance that is not easily transferred to Western models or definitions. As such the BLM recognizes that they have identified sites that are of concern because of their association with Ute occupation of the area as part of their traditional lands. All of these allotments are in an area with cultural resources affiliated with Ute occupation. Several have clearly affiliated sites, others are inferred without further data recovery (absolute dating of hearths) to confirm. Additional information will be provided to the tribes in August 2014 regarding the presence of and management considerations for known sites that may be of concern and notification for new sites identified by survey or allotment evaluation.

No Action Alternative:

The impacts to tribal areas of concern would be similar to the Proposed Action effects described below though to a greater extent than the proposed action due to increased grazing numbers on the NE Spear Allotment.

Proposed Action:

Based on previous consultation for other projects, the environment of these allotments, and the results of the current literature review and fieldwork, there is evidence that there are sites that hold special significance for Native Americans in the allotment. Reduced grazing with a goal of reestablishing native species and reducing the areas where grazing has impacted native plant communities would contribute towards recreating a more natural landscape. Known Ute sites in the allotments would be monitored and additional inventory may identify additional Ute sites. Because the cultural affiliation of other archaeological sites previously recorded in the allotment has not been established, it is possible that more sites that are affiliated to the Ute could be confirmed. As sites are reevaluated and survey is conducted in these allotments further consultation with the Ute Tribes would be conducted.

Cumulative Effects:

Continued livestock grazing does degrade from the landscape that the Native Americans experienced prior to the taking of their lands.

Protective/Mitigation Measures:

If new information is brought forward any site-specific Native American mitigation measures suggested during future notification/consultation would be considered and adjustment to the allotment management plan may be required. If sites of interest to local tribes are found during future inventory for proposed projects or during reevaluation of sites then consultation, including additional field visits to evaluate the sites, discuss the effects of the project, and incorporate appropriate protection measures will be made before implementation.

Additionally, if the BLM determines that grazing activities will adversely impact any tribal or historic properties of interest to tribes that may be identified in the future, mitigation will be designed and implemented in consultation with the tribes within the term period of the permit

depending on which alternative is selected. The livestock impacts to these historic properties and areas of tribal concern will be assessed within the term period of the permit.

No Grazing Alternative:

Removing grazing from the public lands would return the land use pattern to that prior to the contact period when Euroamericans and other ethnic groups first settled the Grand Valley immediately following removal of the Ute from their traditional lands. These conditions would best represent the landscape that the Native Americans experienced prior to the taking of their lands for the purpose of grazing and other resource uses by the non-native cultures.

Cumulative Effects:

No grazing of this allotment would increase the number of acres that would reflect the pre-contact conditions described in the Direct Effect indicated above.

3.4.3 Visual Resources

Current Conditions:

The three allotments occupy the rugged topography of the Book Cliffs and the Roan Creek drainage, consisting of largely of pinyon-juniper and sagebrush-covered mountains, ridges, mesas and canyons.

A 2009 Visual Resource Inventory (VRI) classified portions of the three allotments from VRI Class II to VRI Class IV, and Scenic Quality B and C within Scenic Quality Rating Units 6, 7, 8, 18, and 19 (Otak, 2009).

The area is primarily used by ranchers, oil and gas operators, and recreationists (OHV users and hunters). These users constitute the typical casual observer.

Man-made modifications to the landscape include oil and gas developments, range management structures (e.g. fences, corrals, water tanks), the seasonal presence of livestock, and roads and trails.

All of the subject allotments are in areas undesignated for VRM in the 1987 GJFO RMP. Undesignated areas have typically been managed using Class III objectives. VRM Class III objectives are “to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.” (BLM 1987)

No Action

Under this alternative the current grazing routine would continue. There would be no direct or indirect effects to visual resources from this alternative.

Cumulative Effects:

Under the No Action Alternative the visual landscape would continue to change due to on-going natural gas drilling and gathering activities, maintenance and improvement of roads, and

recreation use. These activities would have a relatively long-term effect on the visual quality of the view shed in the allotments.

Proposed Action

The seasonal presence of livestock would continue moderate visual contrast during the grazing period. Trailing from livestock use on steep cross slopes and around water sources would likely result in reduced vegetation and more exposed soil, increasing visual contrast. These visual impacts would be lessened during non-grazing periods. Reducing the number of AUMs, and shortening the grazing periods on the allotments would reduce the visual impacts from those of the No Action Alternative due to potential increases in the health and productivity of vegetation. Maintenance of range improvements (e.g. ponds) would create short-term increases in visual contrast.

Cumulative Effects:

Cumulative effects under this alternative would be similar to those described above for the No Action Alternative

No Livestock Grazing

Under this alternative grazing would no longer occur on these allotments and the visual effects of grazing operations would be diminished. Over time, the visual effects from concentrated livestock use (vegetation removal and exposed soil) would diminish.

Cumulative Effects:

Cumulative effects to visual resources under this alternative would be similar to those described above for the No Action Alternative, but would be lessened by the absence of grazing operations.

3.4.4 Social and Economic

Grazing has been a viable part of the local economy and provides many social and economic inputs into the local community. The issuance of a ten year grazing permit allows for the continuance of livestock grazing on the N.E. Spears (06718), West Logan Wash (06752), Logan End Common (06732) Allotments which contributes to the operation of the grazing permittee. Permitted grazing use on public lands is a large factor in keeping the local ranching families and industry viable. This in turn has an effect in maintaining the stability of local economies with this economic effect of ranching generally increasing as community size decreases. Small communities in the planning area are much more economically dependent on ranching and agriculture than larger communities with more diverse economic bases. Currently there are two permittees that use these allotments for livestock grazing and rely on this public grazing access as a means of economic income. Issuance of the grazing authorization allows for the continuance of livestock grazing within the areas proposed for trailing routes which contribute to seven local ranchers and their families.

No Action

The No Action Alternative would be the same as the Proposed Action for Social, Economics.

Proposed Action

The proposed action would provide for maintaining and improving conditions for rangeland health and vegetative and soil conditions and meet the needs of the grazing permittee, which would increase the long-term viability of the permittee's grazing operation.

Cumulative Effects:

The issuance of a 10 year grazing permit to this permittee as well as other permittees in the area would provide economic stability to the grazing permittees as well as the agricultural industry in the area. The cumulative effects of the proposed action would likely have positive effects on the permittees livestock operations through proper grazing management as well as the local economy.

No Livestock Grazing

Eliminating grazing on public land would cause a major direct impact to the grazing permittee by eliminating an area for livestock grazing, but would have limited impacts on a broader economic scale. Removing this grazing area would force the permittee to pursue other options which would have greater economic impacts to their operation. These options include pursuing private lands for grazing, which are limited, or feeding hay. Feeding hay can be very expensive and a major impact to livestock producers. Prohibiting livestock trailing on these allotments could have an impact on the ranching industry in this area, and may impact on the economies of smaller towns in the area. Economic impacts in the larger community and economy would be minimal under this alternative.

Cumulative Effects:

Regional cumulative effects under this alternative would be minimal. The additional economic impact to the local community and livestock operator could result in the termination of the livestock operation. This termination may have an economic impact to the local economy if trends in loss of livestock operations were to increase. The elimination of a grazing operation could force the permittee to seek other options for his private property such as subdividing for development, which can be more of a short-term localized economic return.

3.4.5 Wastes, Hazardous or Solid

Current Conditions:

Hazardous and solid wastes are not expected to be a part of the natural environment but could be introduced into the environment as a result of implementation of the proposed action.

No Action:

Impacts under the No Action Alternative would be the same as under the Proposed Action.

Cumulative Effects:

Cumulative effects would be the same as those under the Proposed Action.

Proposed Action:

There should be little or no direct indirect impacts from the proposed action. Potential sources of hazardous wastes would be from the use of herbicides/pesticides, and fuels and lubricants used

for machinery. Standard permit terms require adherence to applicable state and federal laws, which would include the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA.) Improper disposal of solid wastes is prohibited by the Federal Land Policy and Management Act (FLPMA). Illegal disposal of hazardous or solid wastes has generally not been an issue with grazing permits, at least in the more recent past. The rare, isolated instance of spilled or abandoned wastes would be handled in accordance with the Grand Junction Field Office Oil and Hazardous Materials Incident Contingency Plan.

Cumulative Effects:

Given the rarity of incidents involving spilled and abandoned hazardous wastes, cumulative effects would likely be essentially immeasurable.

No Livestock Grazing

There would be no impacts from hazardous wastes or spills from livestock grazing operations under this alternative.

Cumulative Effects:

This alternative would result in no additional cumulative effects associated with livestock grazing.

3.5 LAND RESOURCES

3.5.1 Recreation

Current Conditions

The three subject allotments are not part of a designated recreation management area and do not contain any developed recreation facilities. Public access to BLM-managed lands in this area is limited due to surrounding private property. Hunting is the primary recreation activity within the allotments. Hunting for elk, deer, bear, and mountain lion occurs in the area during fall and winter hunting seasons. Some dispersed camping also occurs at undeveloped sites throughout the area. No BLM traffic counter data is available for recreation visitor use estimates in this area. The primary recreation use season for the area is spring and fall when temperatures are moderate.

The Project Area is located in Colorado Parks and Wildlife (CPW) Game Management Unit (GMU) 31. This GMU has historically been very popular with big-game hunters and can be expected to remain so into the future. The GJFO manages two Special Recreation Permit (SRP) for big game hunting and five SRPs for mountain lion hunting in the area. The following big game outfitters are authorized to operate in the project area: High Lonesome Lodge and Prather Outfitters. The following mountain lion outfitters are authorized to operate in the project area: Alamo Outfitters, Backcountry Outfitters, High Lonesome Lodge, Cat Track Outfitters, and Mark Davies Outfitters.

No Action

Under this alternative the current grazing operation would continue. Livestock grazing would continue to be present during the higher use spring and fall seasons, but would generally not have a noticeable effect on recreation activities. The presence of livestock would impact the

physical setting of recreationists seeking a natural setting for their chosen recreation activity. Fall livestock grazing could impact game distribution and hunter success, impacting hunting opportunities. Indirect effects include trail damage (loosening soil on dry trails, pock-marking wet trails) from livestock use, and impacts to campsites from trampling and fecal material.

Cumulative Effects:

Ongoing oil and gas development in the area would continue to have an impact on recreation users for the long-term as new roads are developed and the naturalness of the area's setting is reduced. Big game hunters would be impacted by changes to habitat and potential changes in animal distribution.

Proposed Action

The effects would be similar to the No Action alternative for the Logan End and West Logan Wash allotments. The reduced number of AUMs and modified grazing periods in the North East Spear allotment would lessen the impacts described above in the No Action Alternative to recreation in this alternative.

Cumulative Effects:

Cumulative effects from the proposed action would be similar to those described in the No Action Alternative.

No Livestock Grazing

Under this alternative, impacts to trails, campsites, game species, and recreation setting characteristics from livestock grazing would be eliminated.

Cumulative Effects:

Ongoing oil and gas development in the area would continue to have an impact on recreation users for the long-term as new roads are developed and the naturalness of the area's setting is reduced. Big game hunters would be impacted by changes to habitat and potential changes in animal distribution. Impacts from livestock grazing on these allotments would be eliminated.

3.5.2 Range Management

Current Conditions:

The N.E. Spear Allotment rangeland management Ecological Site Inventory (ESI) was completed in 2009 and showed that actual AUM numbers are lower than that which was allocated under the current permitted use. A Land Health Assessment was also completed in 2013 and concluded that changes to grazing practices were necessary in order to allow for recovery of damaged vegetation resources. Observation of poor vegetative health is not only due to historic grazing practices, but is also a result of drought and cheatgrass invasion. A lack of perennial understory species was also noted in the assessment. Approximately 18% of the assessed allotment is not meeting Land Health Standards.

Within the West Logan Wash (06752) approximately 60% of the grazing allotment is not meeting Land Health Standards (Roan & Carr Creek Land Health Assessment, 2013). The primary reasons for not meeting standards are historic livestock grazing management, drought,

poor perennial grass cover, erosion, and the complexities of a drainage area. Additionally the allotment contains numerous Oil and Gas developments that affect land health conditions.

The Logan End Common (06732) allotment was and found to be meeting all Land Health Standards. An ESI study was completed in 2009 and found the current 86 AUMs to be sufficient for proper livestock management. This allotment is typically used during the summer and early fall months and has not shown issues or degradation as a result of grazing livestock. A majority of the allotment is private land.

Table 3.5.2-1: Current Grazing Schedule for N.E. Spears, West Logan Wash, Logan End Common allotments.

| Allotment/# | Category | Livestock #/Kind | Grazing Period | %PL | Type Use | AUMS |
|--------------------------|----------|------------------|----------------|-----|----------|------|
| N.E. Spear (06718) | Maintain | 147 Cattle | 04/16 – 04/30 | 100 | A | 72 |
| | | 203 Cattle | 05/01 – 05/15 | 100 | A | 100 |
| | | 244 Cattle | 05/16 – 05/31 | 100 | A | 128 |
| | | 45 Cattle | 11/16 – 12/30 | 100 | A | 67 |
| | | 97 Cattle | 12/31 – 2/15 | 100 | A | 150 |
| West Logan Wash (06752) | Improve | 140 Cattle | 5/25 – 5/30 | 100 | A | 28 |
| Logan End Common (06732) | Maintain | 17 Cattle | 06/01 – 10/31 | 100 | A | 86 |

Table 3.5.1-2: Allotment Summary:

| Allotment | Federal Acres | AUMs | | |
|--------------------------|---------------|--------|-----------|-------|
| | | Active | Suspended | Total |
| N.E. Spear (06718) | 6,442 | 517 | 0 | 517 |
| West Logan Wash (06752) | 428 | 28 | 0 | 28 |
| Logan End Common (06732) | 1,670 | 86 | 0 | 86 |

No Action:

Under the No Action Alternative, the new permit would have the same grazing schedule, AUM numbers, and terms and conditions as the current permit. The term of the new permit would be from 10/01/2014 to 09/30/2024. Rangeland conditions would be expected to remain the same and possibly increase depending on precipitation levels, timing, permittee participation.

Cumulative Effects:

Oil and Gas, recreation, livestock grazing, and hunting have occurred in the past and present and are expected to continue for the ten year term of the grazing permit renewal. Under this alternative cumulative effects are not expected to increase as a result of grazing, as rangeland conditions are expected to stay static.

Proposed Action

The proposed action is to allow cattle grazing within the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) with changes to the allotments terms and conditions, including provisions for adaptive management and temporary nonuse in order to ensure that livestock grazing on public land occurs in a responsible and sustainable manner. All proposed changes to allotments have been discussed with the permittee. The proposed management changes and grazing effects on the N.E. Spear (06718), West Logan Wash (06752), and Logan End Common (06732) allotments and authorize livestock grazing with terms and conditions designed to promote healthy and sustainable management are discussed below. The corresponding federal grazing regulations are also included in the following discussion.

Adaptive management would provide for more flexibility in grazing dates to accommodate seasonal temperature and precipitation variations, drought, and resource concerns. Greater flexibility would also be provided to the permittee. Temporary Nonuse if approved by the Authorized Officer would provide additional AUM's on a temporary basis as long as there is no substantial impact to other resources, and utilization levels are not exceeded.

N.E. Spear (06718):

An Ecological Site Inventory (ESI) was completed in 2009 and determined that actual AUM numbers are lower than the allocated amount. An additional Land Health Assessment was completed in 2013 that determined that changes were necessary for successful recovery of damaged vegetation resources resulting from historic grazing, drought, and cheatgrass invasion. The proposed grazing schedule includes a reduction in AUMs from 531 to 100, as well as timing changes from the current permitted grazing schedule (Table 3.5.1). The proposed changes would allow for increased rest from grazing during the critical growth period. Table 2.2 illustrates the new proposed AUM and timing changes to the allotments. In order to graze on public BLM lands in a responsible manner our regulations allow authorized officers the ability to make changes to the permit to allow for healthy and comprehensive land management decisions.

Grazing Regulations 43 CFR Part 4110.3 (Changes in permitted use) states; *“The authorized officer shall periodically review the permitted use specified in a grazing permit or grazing lease and shall make changes in the permitted use as needed to manage, maintain, or improve rangeland productivity, to assist in restoring ecosystems to properly functioning condition, to conform with land use plans or activity plans, or to comply with the provisions of subpart 4180 of this part. These changes must be supported by monitoring, field inventory or other data acceptable to the authorized officer”.*

N.E. Spears Stipulations: Allotment will be rested until work on ponds, water sources, and functional fences are maintained before grazing is to continue. Authorized representative must be notified when work is complete before livestock can graze on the allotment.

West Logan Wash (06752):

This allotment is primarily used by permittee as a staging and overnight location when transferring cattle to and from other allotments and private property. The permittee will use lower allotments (N.E. Spear) and private property in the spring and use the higher elevation allotments (Logan End Common) during the summer and early fall months. From there the

permittee moves livestock to private land. The allotment is simply a staging area in the spring before moving livestock to the upper county. Timing and AUM numbers will stay the same as current schedule and are shown in Table 3.5.1. Satisfactory results from range trend studies and a recent Land Health Assessment confirm that continuation of the current grazing authorized on the West Logan Wash (06752) is not affecting land health standards.

Logan End Common (06732):

This allotment was evaluated for Land Health Assessments in 2012 and found the BLM land to be meeting all Land Health Standards. ESI was completed in 2009 and found the current 86 AUMs to be sufficient for proper livestock management. This allotment generally gets used during the summer and early fall months and has not shown issue or concerns with grazing livestock. No changes to AUMs or timing of use would occur under this proposal. A comparison of the change can be seen by observing Table 3.5.2 – 1 and 3.5.2 – 3. Satisfactory results from range trend studies and a Land Health Assessment confirm that the current grazing authorized on the Logan End Common (06732) allotment should continue under a similar schedule and at similar rates.

Logan End Common Stipulations: Allotment would be rested from livestock grazing until stock ponds, water sources, and functional fences are properly maintained. The authorized representative must be notified when work is complete before livestock could resume grazing on the allotment.

Table 3.5.2-3 Proposed Grazing Schedule and Numbers for the N.E. Spear, West Logan Wash, Logan End Common Allotments

| Allotment/# | Category | Livestock #/Kind | Grazing Period | %PL | Type Use | AUMS |
|--------------------------|----------|------------------------|------------------------------|-----|----------|--------------|
| N.E. Spear (06718) | Improve | 80 Cattle 95 Cattle | 4/08 – 5/15 11/30 – 12/31 | 100 | A | 100* 100* |
| West Logan Wash (06752) | Maintain | 140 Cattle | 5/25 – 5/30 | 100 | A | 28 |
| Logan End Common (06732) | Maintain | 17 Cattle | 06/01 – 10/30 | 100 | A | 86 |

* Indicates permittees must only use ONE season of grazing either spring or fall, but not both. Terms and conditions would also stipulate that the permittee must NOT graze more than two consecutive spring seasons to allow for a rest period during the critical growth period.

Table 3.5.2-4 Proposed Allotment Summary:

| Allotment | Federal Acres | AUMs | | |
|--------------------------|---------------|--------|-----------|-------|
| | | Active | Suspended | Total |
| N.E. Spear (06718) | 6,442 | 100 | 0 | 100 |
| West Logan Wash (06752) | 428 | 28 | 0 | 28 |
| Logan End Common (06732) | 1,670 | 86 | 0 | 86 |

Best Management Practices (BMPs) Common to All Grazing Alternatives

1. Grazing systems and management practices should be directed at increasing perennial fire-tolerant grasses.
2. All uses including grazing should be designed to take into account the highly erodible nature of soils in the allotments.
3. All open topped water tanks would include wildlife escape ramps that meet the following conditions: slope no steeper than 45 degrees in all directions, securely attached to the tank, meets the inside wall of the tank, extend down the inside wall of the tank/trough (in both directions), and make contact with the bottom of the tank.
4. Grazing in the winter should be carefully monitored to minimize direct forage competition with deer and elk.
5. Grazing techniques to influence better distribution of cattle on uplands and away from riparian areas should be used. Other methods such as salting and providing nutritional supplements away (at least 550 meters) from riparian areas, culling cattle that prefer grazing in riparian areas, and use of low stress stockmanship to keep cattle well distributed on uplands away from riparian areas. The permittee should use these methods to improve and maintain the health of riparian areas.
6. Grazing systems and management practices should be directed at increasing perennial grass and forb cover and meeting Public Land Health Standards.
7. Provide periodic rest during the critical spring growth period.

No Livestock Grazing Alternative:

Under the No Livestock Grazing Alternative the grazing permit would not be renewed and livestock grazing on the N.E. Spears, West Logan Wash, Logan End Common allotments would be terminated. This would have both short and long term negative financial impact on the permittee and local agricultural economy. Required maintenance on range improvement projects would no longer occur unless the BLM performed the maintenance. This could have a long term negative effects to wildlife and hunters by reducing the amount of time and energy spent on maintaining these facilities.

Cumulative:

Range improvement projects (water sources, fences) would no longer be maintained by the permittee and would become non-functional unless the BLM performed the required maintenance, which could affect wildlife due to loss of existing water sources. If the No Livestock Grazing Alternative is chosen, then there would be no action of livestock grazing for cumulative effects.

CHAPTER 4 - CONSULTATION AND COORDINATION

4.1 LIST OF PREPARERS AND PARTICIPANTS

INTERDISCIPLINARY REVIEW

| NAME | TITLE | AREA OF RESPONSIBILITY |
|---------------------------------|---|--|
| Julia Christiansen | Natural Resource Specialist | Surface Management and Permitting for Oil & Gas |
| Alissa Leavitt-Reynolds | Archaeologist | Cultural Resources, Native American Religious Concerns |
| Michelle Bailey Chris Pipkin | Outdoor Recreation Supervisor Outdoor Recreation Planner | Access, Transportation, Recreation, VRM, Wilderness, ACECs |
| Scott Clarke | Range Management Specialist | Vegetation, Range |
| Jacob Martin | Range Management Specialist | Range, Forestry |
| Jim Dollerschell | Range Management Specialist | Range, Wild Horse & Burro Act |
| David Scott Gerwe | Geologist | Geology, Paleontology |
| Alan Kraus | Hazardous Materials Specialist | Hazardous Materials |
| Robin Lacy | Realty Specialist | Land Tenure/Status, Realty Authorizations |
| Heidi Plank | Wildlife Biologist | T&E Species, Migratory Bird Treaty Act, Terrestrial & Aquatic Wildlife |
| Anna Lincoln | Ecologist | Land Health Assessment, Range Ecology, Special Status Plant Species |
| Christina Stark | Planning & Environmental Coordinator | Environmental Justice, Prime & Unique Farmlands, Environmental Coordinator, Riparian and Wetland |
| Nate Dieterich | Hydrologist | Soils, Air Quality, Water Quality, Hydrology, Water Rights |
| Mark Taber | Range Management Specialist | Weed Coordinator, Invasive, Non-Native Species |
| Lathan Johnson | Fire Ecologist Natural Resource Specialist | Fire Ecology, Fuels Management |

Table 4.1– Potentially Impacted Resources

Threatened and Endangered plants and native perennial vegetation are the main resource concerns driving changes needing made in this EA. Much of the concerns will be addressed in the analysis on the proposed action and any changes being made to the grazing permit in order to maintain healthy rangelands.

4.2 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

Dean Powell – Livestock Grazing Permittee

Consultation was conducted with the Ute Indian Tribe, Ute Mountain Ute Tribe and the Southern Ute Tribe for this permit renewal in August of 2014.

CHAPTER 5 - REFERENCES

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