

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

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**Environmental Assessment  
for the Logan Gulch Vegetation Treatment**

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

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## CHAPTER 1

### 1.1 INTRODUCTION

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This EA has been prepared by the BLM to analyze a proposed 160 acre vegetation treatment on Logan Gulch allotment (#06730).

CASEFILE/PROJECT NUMBER: 1994

PROJECT NAME: Logan Gulch Vegetation Treatment

PLANNING UNIT: Grand Junction Field Office

APPLICANT: BLM

### 1.2 PROJECT LOCATION AND LEGAL DESCRIPTION

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The project area is located two miles north of the town of Debeque, CO.

#### LEGAL DESCRIPTION:

Vegetation Treatment: Township 8 South, Range 97 West, Sections 10 and 15; 6<sup>th</sup> Principle Meridian; Mesa County. See attached map.

### 1.3 PURPOSE AND NEED

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A Land Health Assessment for Logan Gulch allotment was done in 2006 and indicated the project area was in poor rangeland condition and was not meeting land health standards. A vegetation treatment is needed to reduce the cover of decadent sagebrush and improve plant diversity through the establishment of perennial herbaceous plants. Increasing the amount of grasses and forbs will improve upland soil conditions. Without the treatment the area will remain in the current state until a wildfire occurs which could promote conversion to cheatgrass. This habitat treatment is also needed to improve habitat for elk, deer, greater sage grouse, and livestock habitat and to improve the overall land health.

### 1.4 PLAN CONFORMANCE REVIEW

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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

**STANDARDS FOR PUBLIC LAND HEALTH:** In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover (No. 1) upland soils, (No.2) riparian systems, and (No.3) plant and animal communities; (No.4) threatened and endangered species, and (No.5) water quality. Standards describe conditions

needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for each of these five categories, a finding must be made for each of them in an environmental analysis.

These findings, by resource, are based on a variety of methods including but not limited to Land Health Assessments, utilization studies, long term trend monitoring studies and Proper Functioning Condition assessments and are listed by specific elements in the table below. Each element is discussed in detail in the appropriate sections appearing later in the document.

## **1.5 PUBLIC PARTICIPATION**

### **1.5.1 Scoping, Consultation, and Coordination**

NEPA regulations (40 CFR §1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis. Posting the action on the GJFO website and NEPA log was the primary mechanism used by the BLM to initially identify issues regarding the proposed Project.

## **1.6 DECISION TO BE MADE**

The BLM will decide whether to approve the proposed Logan Gulch Vegetation Improvement project based on the analysis contained in this Environmental Assessment (EA). This EA will analyze the use of the Dixie Harrow as the mechanical treatment type. The BLM may choose to: a) accept the projects as proposed, b) accept the projects with modifications, or c) modify the proposed projects by incorporating reasonable alternatives. The finding associated with this EA may not constitute the final approval for the proposed action. BLM decision-makers will decide, based on the analysis contained in this EA, whether or not to authorize the proposed action or modify the proposed action or reject the application in whole.

# **CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES**

## **2.1 INTRODUCTION**

The BLM has analyzed two alternatives, the No Action and the Proposed Action Alternative. There were no other alternatives considered but not analyzed in detail.

## **2.2 ALTERNATIVES ANALYZED IN DETAIL**

### **2.2.1 NO ACTION ALTERNATIVE**

Under this alternative the proposed project would not be implemented.

### **2.2.2 PROPOSED ACTION**

The proposed action is to treat 160 acres of overgrown decadent sagebrush with a Dixie harrow pulled behind a rubber tired tractor. A Dixie harrow consists of a large spike tooth harrow that is used to remove sagebrush or other small shrub stands with a high degree of control. The

treatment will occur in the fall or early spring to make sure of adequate moisture is available for seed establishment. The Dixie harrow is estimated to remove 40-60% of big sagebrush with one pass, and twice over will result in a 70-90% reduction. The equipment can further be manipulated to remove less sagebrush if desired. A broadcast seeder will be mounted on the tractor and spread at a rate of 16 lbs/acre.

The goal of this project is to reduce sagebrush by 40% and increase the frequency of grasses by 20% and forbs by 10% within 5 years, and reduce cheatgrass by up to 30%. Frequencies transect and photo points will be established prior to the treatment to monitor success of treatment. There will be a minimum of two years rest from livestock grazing after treatment to allow for seed establishment

## **CHAPTER 3 AFFECTED ENVIRONMENT**

### **3.1 INTRODUCTION**

This chapter provides a description of the human and natural environmental resources that could be affected by the Proposed Action and Alternatives.

### **CRITICAL ELEMENTS**

### **3.2 AIR QUALITY**

No designated Class I airsheds are located within Mesa County; the nearest Class I areas are more than fifty air miles away. The closest Class I airsheds are the Flattops and Maroon Bells Wilderness Areas and Black Canyon National Park. The EPA general conformity rule requires a formal conformity determination document for federally-sponsored or funded actions in non-attainment areas, or in certain designated maintenance areas, when the total direct and indirect net emissions of non-attainment pollutants (or their precursors) exceed specified *de minimis* levels. Since the project area is not within a non-attainment area, Clean Air Act conformity does not apply.

### **3.3 AREAS OF CRITICAL ENVIRONMENTAL CONCERN**

There are no ACECs within the project area.

### **3.4 CULTURAL RESOURCES**

A records search of the project area indicated that two previous inventories had been conducted in the northern part of the Area of Potential Effect (APE), as defined in the National Historic Preservation Act (NHPA) with negative results in the APE (BLM GJFO CRIR 2082-30 and CRIR 1109-03). A Class III inventory of the remaining 77 acres of the APE was contracted to Smith Environmental and conducted in 2009 (GJFO CRIR 17309-04). Conditions of the existing cultural environment are incorporated by this reference but the following briefly summarizes cultural resources in the APE. Both of the earlier inventories did not report any cultural resources in the project area and the Smith Environmental inventory reported only three isolated finds. The project inventory and evaluation is in compliance with the NHPA, the Colorado State Protocol Agreement, and other federal law, regulation, policy, and guidelines regarding cultural resources.

### **3.5 ENVIRONMENTAL JUSTICE**

The requirements for environmental justice review were established by Executive Order 12898 (February 11, 1994). That order declared that each Federal agency is to identify “disproportionately high and adverse human health or environment effects of its programs, policies, and activities on minority populations and low income populations.”

According to Census 2000, the only minority population of note in the impact area is the Hispanic community of Mesa County. Persons describing themselves as Hispanic or Latino represented 10.0 percent of the population, considerably less than the Colorado state figure for the same group, 17.1 percent. Blacks, American Indians, Asians and Pacific Islanders each accounted for less than one percent of the population, below the comparable state figure in all cases. The census counted 7.0 percent of the Mesa County population as living in families with incomes below the poverty line, compared to 6.2 percent for the entire state. Both minority and low income populations are dispersed throughout the county.

### **3.6 FLOODPLAINS**

There are no floodplains within or adjacent to the project area.

### **3.7 INVASIVE, NON-NATIVE SPECIES**

This allotment was inventoried for noxious weeds by BLM weed staff in 2004. Isolated infestations of noxious weeds (biennial thistles, Russian knapweed, and whitetop were found mostly along road systems. These infestations have been treated by BLM weed treatment crews with good success. Locally abundant annuals such as cheatgrass were not mapped.

### **3.8 MIGRATORY BIRDS**

The proposed action occurs in decedent sage with an understory of predominantly cheat grass. Birds of Conservation Concern (USFWS, 2008) for whom habitat occurs in the project area include Brewer’s Sparrow.

### **3.9 NATIVE AMERICAN RELIGIOUS CONCERNS**

There is no known evidence that suggests the project area holds special significance for Native Americans, or is actively used to maintain any traditional practices. The project would not alter or limit any access if there were traditional uses that are not known to the agency.

### **3.10 SPECIAL STATUS SPECIES**

*Plants:* The Logan Gulch grazing allotment is known to contain the ESA protected Colorado hookless cactus (T), DeBeque phacelia (C), and the BLM Special Status plant Species Naturita milkvetch, and Adobe thistle. In general the proposed project area is highly degraded, and no longer considered suitable habitat for any known rare plant species.

*Wildlife:* The action area includes potential habitat for the BLM sensitive greater sage grouse and midget faded rattlesnake.

### **3.11 WASTES, HAZARDOUS OR SOLID**

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

**3.12 WATER QUALITY, SURFACE AND GROUND**(includes a finding on Standard 5)

The Logan Gulch allotment is bounded by the Colorado River to the south, Roan Creek Road to the west, Logan Wash to the north, and Berry Homestead and County Line allotments to the east. There is no perennial water within the allotment boundary; the ephemeral streams within the allotment flow into Roan Creek. No flow or water quality data are available for this area due to the lack of flow. Geology and soils are similar to that of County Line allotment. Roan Creek including all tributaries from Clear Creek to the confluence with the Colorado River is classified for the following beneficial uses: Aquatic life warm 1, Recreation 1b, Water supply, and Agriculture. These tributaries are not on the 303(d) list, suggesting water quality standards are current being met.

**3.13 WETLANDS & RIPARIAN ZONES**

There are no riparian areas or wetlands in or adjacent to the project area.

**3.14 WILDERNESS**

The project area is not located near wilderness, wilderness study areas, wild and scenic rivers, or areas of critical environmental concern.

**NON-CRITICAL ELEMENTS**

The following elements **must** be addressed in connection with the Standards for Public Land Health:

**3.15 SOILS**

Listed below are the soils associated with the allotment mentioned.

Soil Unit #/Name	Range Site	Slope (%)	Annual Precip . (in)	Drainage Class	Native Potential Vegetation
12-Bunkwater very fine sandy loam	Alkaline Slopes	1 - 8	10 - 12	Well Drained	greasewood, shadscale saltbush, Wyoming big sagebrush, galleta, western wheatgrass, Indian ricegrass
32-Dominguez clay loam	Semi-desert clay loam	3 - 8	12 - 15	Well Drained	Wyoming big sagebrush, saline wildrye, western wheatgrass, Sandberg bluegrass, Indian ricegrass, shadscale saltbush
69-Travessilla-Rock outcrop complex	Foothill Juniper	10-35	12 - 16	Well Drained	Two needle pinyon, juniper, galleta, Sandberg bluegrass, bluebunch wheatgrass, bottlebrush squirreltail, needleandthread, Indian ricegrass

**3.16 VEGETATION**

There are two range sites associated with this project area; Alkaline Slopes and Semi-Desert Clay Loam. Most of the project area is located on Alkaline Slopes with a plant community dominated by sagebrush and cheatgrass. There will be direct negative impacts to the existing woody vegetation and some short term effect to the herbaceous plants within the treated area. Over a long period, sagebrush will reestablish in the treatment area, and with sound

management, will come back in a diverse and balanced community. Residual grasses and forbs should be positively impacted and increase production, cover, composition once they are released from competition with sagebrush and cheatgrass.

There are two apparent trend plots on the Logan Gulch allotment, one of which is located on the proposed treatment area. This plot was read in 2005 and data illustrated a flat dominated by sagebrush and cheatgrass with very little perennial understory vegetation. Past years data also indicate a very thick sagebrush and cheatgrass dominated plant community.

Project area associated by range site and acres:

Range Site	Acres
Alkaline Slopes	148
Semi-Desert Clay Loam	12
<b>Total</b>	<b>160</b>

### 3.17 WILDLIFE, AQUATIC

No aquatic habitat is present within the action area.

### 3.18 WILDLIFE, TERRESTRIAL

The action area includes critical winter range for mule deer and is likely to provide some habitat for coyotes and a variety of small mammals and lizards

### OTHER NON-CRITICAL ELEMENTS ANALYSIS:

For the following elements, those brought forward for analysis will be formatted as shown above, with write-ups below the table

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access		X	
Cadastral Survey	X		
Fire		X	
Fuels Management		X	
Forest Management	X		
Geology and Minerals	X		
Hydrology/Water Rights			X
Law Enforcement	X		
Paleontology	X		
Noise	X		
Range Management			X
Vegetation			X
Realty Authorizations		X	
Recreation		X	
Socio-Economics	X		
Soils			X
Transportation		X	

Visual Resources		X	
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### **3.19 ACCESS**

The proposed action to implement a 160 acre vegetation treatment on Logan Gulch allotment (#06730) is bordered by a county road on the west and a primitive unimproved route to the east.

### **3.20 HYDROLOGY AND WATER RIGHTS**

A description of the hydrologic characteristics within the allotments is included in the water quality section above.

### **3.21 RANGE MANAGEMENT**

The project is located on Logan Gulch allotment (#06733) and is mainly used for spring grazing by cattle. There are 507 AUM's associated with the allotment and are divided amongst three permittees. The BLM has no developed water sources in the allotment. This allotment has received heavy grazing in past years. However, the grazing allotment has been rested from livestock for two years and will be rested for at least two more to allow perennial plants to improve vigor for growth and reproduction. The combination of low precipitation and overuse by cattle has driven the project area away from suitable rangeland habitat.

The table below represents the three permittee's and their grazing schedules for Logan Gulch allotment (#06733).

Permittee	Livestock #/Kind	Grazing Period	%PL	Type Use	AUMS
Frank & Verlene Dix	172 C	5/05 – 6/18	100	ACTIVE	254
David Long	114 C	5/05 – 6/18	100	ACTIVE	169
Todd Farrington	57 C	5/05 – 6/18	100	ACTIVE	84
<b>Total</b>	343	1 ½ months			507

#### Allotment Summary:

Allotment	Federal Acres	AUMs		
		Active	Suspended	Total
Logan Gulch/06733	2481	507	0	507

### **3.22 REALTY AUTHORIZATIONS**

The federal government owns the surface and mineral estates of the lands within the proposed action. A review of the Master Title Plats and the LR2000 database indicates the following authorized realty actions within the project area:

- COC-67267 – natural gas pipeline ROW, 45' wide, Great Divide Gathering LLC, (Section 10)
- COC-35181 – access road ROW, 40' wide, Teton Energy Co., (Sections 10 and 15)

### **3.23 RECREATION**

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The Proposed Action area lies mostly outside of Intensive Recreation Management Areas and are managed as Extensive Recreation Management Areas (ERMA). ERMAs are generally managed in a custodial manner, with no infrastructure or developments. ERMAs are not considered to be destination recreation areas. Dispersed recreation occurs to varying levels in ERMAs. Most recreation use in the area, on public lands, is incidental OHV use with few routes and limited access.

### **3.24 TRANSPORTATION**

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The proposed action takes place in the Logan Gulch allotment which has an open OHV designation.

### **3.25 VISUAL**

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A small portion of the Logan Gulch allotment has been designated as VRM Class III and the remaining lands is unclassified. The unclassified areas are being managed as VRM Class III. Class III Objective is 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.

## **CHAPTER 4 ENVIRONMENTAL CONSEQUENCES AND PROTECTIVE MEASURES**

### **4.1 INTRODUCTION**

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This chapter evaluates the environmental impacts of implementing each Alternative discussed in Chapter 2 and determines the potential for significant impacts to each resource.

### **CRITICAL ELEMENTS**

#### **4.2 AIR QUALITY**

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##### **4.2.1 No Action**

No impacts are expected.

##### **4.2.2 Proposed Action**

No significant impacts to air quality, long term or short term, are expected as a result of implementing the proposed action.

##### **4.2.3 Protective/Mitigation Measures: None**

#### **4.3 AREAS OF CRITICAL ENVIRONMENTAL CONCERN**

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##### **4.3.1 No Action**

There will be no ACECs affected by this proposal.

#### **4.3.2 Proposed Action**

There will be no ACECs affected by this proposal.

#### **4.3.3 Protective/Mitigation Measures: None**

### **4.4 CULTURAL RESOURCES**

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#### **4.4.1 No Action**

If the project is not implemented there would be no direct surface disturbance to the cultural resources. If there is soil loss from the surface in some areas of the project area and if vegetation conditions continue to degrade indirect impacts may result from surface erosion and a loss of soil will continue to expose artifacts and sheet wash will cause horizontal displacement.

#### **4.4.2 Proposed Action**

Direct effects to cultural resources will be the churning of the surface soil, horizontally and vertically displacing artifacts and potentially disrupting context or destroying features. Although the environmental setting of the project area does not seem to be likely for unanticipated discovery, deep soils exist in much of the project area and in areas with no or very few surface artifacts deeper buried cultural deposits may exist.

#### **4.3.3 Protective/Mitigation Measures:**

Inadvertent Discovery: The NHPA, as amended, requires that if newly discovered historic or archaeological materials or other cultural resources are identified during the Proposed Action implementation, work in that area must stop and the BLM Authorized Officer (AO) must be notified immediately. Within five working days the AO will inform the operator as to the mitigation measures the operator will likely have to undertake before the site can be used (assuming in place preservation is not necessary) (36 CFR 800.13).

The Native American Graves Protection and Repatriation Act (NAGPRA) requires that if inadvertent discovery of Native American Remains or Objects occurs, any activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice be made to the BLM Authorized Officer, as well as the appropriate Native American group(s) (IV.C.2). Notice may be followed by a 30-day delay (NAGPRA Section 3(d)).

A standard Education/Discovery stipulation for cultural resource protection should be attached to the implementation equipment contractor. The operator or its contractor is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts on public lands.

### **4.5 ENVIRONMENTAL JUSTICE**

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#### **4.5.1 No Action**

None

#### **4.5.2 Proposed Action**

There will be no impacts to minority or low income populations.

**4.4.3 Protective/Mitigation Measures: None**

**4.6 FLOODPLAINS**

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**4.6.1 No Action**

There would be no impacts.

**4.6.2 Proposed Action**

There would be no impacts.

**4.6.3 Protective/Mitigation Measures: None**

**4.7 INVASIVE, NON-NATIVE SPECIES**

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**4.7.1 No Action**

The no action will assure the area will be dominated by invasive annuals.

**4.7.2 Proposed Action**

The proposed action of seeding and harrowing has the potential to establish desirable plants, assuming adequate spring moisture follows the treatment.

**4.7.3 Protective/Mitigation Measures:**

Prior to moving onto public lands, including project area, the Dixie harrow and all equipment must be removed of dirt that could contain weed seeds from previous projects. Equipment can be thoroughly washed with a power washer to remove all dirt.

**4.8 MIGRATORY BIRDS**

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**4.8.1 No Action**

The no action alternative is expected to have no effect on migratory bird habitat as no ground disturbance would occur.

**4.8.2 Proposed Action**

The proposed action has the potential to improve habitat conditions in the project area by increasing perennial understory species diversity, and a reducing cheatgrass; improving the native plant community. However, due to the present density of cheatgrass the proposed project may result in a reduction of sagebrush and an increase in cheatgrass; increasing the threat of fire. Since the proposed project targets a small highly degraded area, and seeks to restore the diversity of understory species, the risks of increasing cheatgrass are acceptable. The treatment area is small enough to serve as a study site in determining techniques to improve rangeland health.

**4.8.3 Protective/Mitigation Measures:** To avoid direct impacts to nesting migratory birds ground and vegetation disturbing activities should not occur between May 15 and July 15.

**4.9 NATIVE AMERICAN RELIGIOUS CONCERNS**

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**4.9.1 No Action**

None

#### **4.9.2 Proposed Action**

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 the Ute have identified sites that are of concern because of their association with Ute occupation of the area as part of their traditional lands. No traditional cultural properties, unique natural resources, or properties of a type previously identified as being of interest to local tribes, were identified during the cultural resources inventory of the project area.

**4.9.3 Protective/Mitigation Measures:** No additional Native American Indian consultation was conducted for the proposed project.

### **4.10 SPECIAL STATUS SPECIES**

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#### **4.10.1 No Action**

Under the No Action alternative, the proposed project area will be rested from grazing for at least one more year, and vegetative improvements would be dependent on the existing seed bank. Self recovery may not be possible if ecological thresholds have been crossed. The project area would not be expected to meet Standard 4 under the No Action alternative.

#### **4.10.2 Proposed Action**

The proposed project area was surveyed for rare plants. A single Colorado hookless cactus was recorded along the boundary of the treatment area. The proposed project boundary will be adjusted to avoid the cacti. The proposed action would reduce the sagebrush canopy and replenish the seed bank.

Greater Sage grouse do not currently use the project area and are unlikely to use the area in its current state. If successful, the proposed action has the potential to improve habitat conditions for the sage grouse. While Midget faded rattlesnakes are likely to use the rocky outcrops surrounding the impacted area, individuals are unlikely to be impacted by the mechanical treatment as the treatment will avoid rocky areas that provide the most ideal midget faded rattlesnake habitat.

The proposed action has the potential to improve special status species habitat by creating a greater diversity of perennial understory species, and a reducing cheatgrass. This would improve the native plant community and move the project area towards meeting Standard 4. However, due to the present density of cheatgrass this vegetation manipulation project may result in a reduction of sagebrush and an increase in cheatgrass; increasing the threat of fire. Since the proposed project targets a small highly degraded area, and seeks to restore the diversity of understory species while avoiding any known special status plant species, the risks of increasing cheatgrass are acceptable. The treatment area is small enough to serve as a study site in determining techniques to improve rangeland health.

#### **4.10.3 Protective/Mitigation Measures:**

The proposed project boundary will be adjusted to provide a 100 meter buffer around the recorded Colorado hookless cactus. Flagging will be adjusted to reflect the changed boundary, and a BLM representative will be on scene during project implementation to ensure that the buffered area is not treated. With an adjusted boundary a determination of no effect was made

for the Colorado hookless cactus. Access to the project site will be restricted to existing roads. In the event that road maintenance is required to access the proposed project site, road widening, or any other disturbance outside the existing road bed will not be authorized.

#### **4.11 WASTES, HAZARDOUS OR SOLID**

##### **4.11.1 No Action**

None

##### **4.11.2 Proposed Action**

None

##### **4.11.3 Protective/Mitigation Measures:**

None

#### **4.12 WATER QUALITY, SURFACE AND GROUND**

##### **4.12.1 No Action**

No surface disturbance and subsequent erosion potential would occur, but the lack of native vegetation diversity hinders upland watershed cover and health, and consequently water quality.

##### **4.12.2 Proposed Action**

Improperly managed cattle grazing can cause vegetation destruction, conversion of native grasses to exotic species, soil erosion, and soil compaction. Though these impacts tend to be concentrated around water sources including stock ponds, springs, streams, and areas of cattle congregation, overgrazing can lead to widespread watershed degradation. Springs, streams, and riparian zones are particularly sensitive areas that tend to be disproportionately impacted by cattle grazing.

The proposal to grazing only on cheatgrass, and only for early spring use would benefit watershed health if the cattle were removed before perennial species were impacted. Subsequent rest for two years in these allotments after project implementation should help improve vegetation health and watershed conditions, if adequate precipitation is received. With the lack of perennial waters within these allotments, any sediment that is produced should not cause a measurable increase in the sediment concentrations in Roan Creek in the short term. But over time, the produced sediment is expected to be transported downstream during storm events.

Finding on the Public Land Health Standard 5 for water quality: While watershed health currently appears impaired in this allotment, water quality standards are not likely being violated due to the distance to perennial water, in this case, Roan Creek and the Colorado River. The proposed action should help improve watershed conditions in these watersheds and should not cause degradation of Colorado water quality standards.

**4.12.3 Protective/Mitigation Measures:** Harrowing should be done on contour if terrain allows to reduce the likelihood of sediment erosion and transport. Avoid creating lines parallel to surface flow patterns.

#### **4.13 WETLANDS & RIPARIAN ZONES**

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##### **4.13.1 No Action**

There would be no impacts to wetlands or riparian areas.

##### **4.13.2 Proposed Action**

There would be no impacts to wetlands or riparian areas.

##### **4.13.3 Protective/Mitigation Measures:**

None.

#### **4.14 WILDERNESS**

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##### **4.14.1 No Action**

None.

##### **4.14.2 Proposed Action**

None.

##### **4.14.3 Protective/Mitigation Measures: None**

#### **NON-CRITICAL ELEMENTS**

The following elements **must** be addressed in connection with the Standards for Public Land Health:

#### **4.15 SOILS**

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##### **4.15.1 No Action**

Under the No Action alternative no soil disturbance will occur. With the current situation of less than adequate vegetative cover, the soils are more vulnerable to wind and water erosion.

##### **4.15.2 Proposed Action**

The proposed action will involve substantial disturbance to the soil surface. Disturbance to the soil and vegetation from the Dixie harrow will provide an improved seedbed for seedling establishment and increase litter cover on the soil surface. An increased litter provides for more protection for the soil surface as well as moisture retention. The exposed soil may an increase in short term erosion but in the long term should be more stable to the increase in litter and plant cover. The Dixie harrow operation will have the effect of mulching and incorporating organic material into the soil for the treatment is finished. There will be some initial ground disturbance, however is necessary to slightly disturb the land when broadcast seeding. However, over the long term, the increase in perennial grasses and forbs will improve upland soil conditions and reduce the amount and intensity of runoff events and soil loss.

Finding on the Public Land Health Standard 1 for upland soils.

#### **4.15.3 Protective/Mitigation Measures: None**

### **4.16 VEGETATION**

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#### **4.16.1 No Action**

Under the No Action alternative no disturbance will occur to the vegetation present. With the current situation of less than potential vegetative cover the area will remain a sagebrush/cheatgrass dominated site with low diversity of perennial native grasses and forbs. The land health status of the area will remain Meeting with problems due to the low vegetative diversity.

#### **4.16.2 Proposed Action**

The proposed action will result in significant disturbance to the vegetation primarily sagebrush and cheatgrass. This implement has the effect of thinning out live sagebrush and slightly disturbing the soil in preparation for a broadcast seeding operation that will occur simultaneously. Sagebrush cover could be reduced as much as 40% and cheatgrass as much as 30 to 40%. An increase in cheatgrass would also be expected in the short term. The decrease in cover of these two species should result in an increase of present and seeded native perennial species by reducing the competition for moisture and sun. The percent cover of sagebrush will be less optimum for wildlife cover in the short term but should rebound quickly if the area receives adequate precipitation. Again this project will reduce the sagebrush canopy and replenish a depleted seed bank with native perennial grasses and forbs which expectantly will either outcompete the exotic annual grass understory, or at least increase the diversity of the understory.

#### **4.16.3 Protective/Mitigation Measures:**

Reseeding the area should increase the diversity of the vegetative community in the area and provide competition to cheatgrass and other undesirables. Monitoring the disturbance to sagebrush and making adjustments to the equipment will ensure the desired amount of cover reduction to sagebrush is achieved.

Finding on the Public Land Health Standard 3 for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial):

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### **4.17 WILDLIFE, AQUATIC**

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#### **4.17.1 No Action**

Under the no action alternative no ground disturbance would occur and no effects are anticipated

#### **4.17.2 Proposed Action**

The proposed action will have no effect on aquatic resources as none occur in the area to be treated.

#### **4.17.3 Protective/Mitigation Measures: None**

*Finding on the Public Land Health Standard 3 for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial):* Implementation of the proposed action would not affect Public Land Health Standard 3 for aquatic plant and animal communities.

#### **4.18 WILDLIFE, TERRESTRIAL**

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##### **4.18.1 No Action**

Under the no action alternative no ground disturbance would occur and no effects are anticipated

##### **4.18.2 Proposed Action**

The proposed action has the potential to improve terrestrial wildlife habitat conditions in the project area by increasing perennial understory species diversity, and a reducing cheatgrass; improving the native plant community. However, due to the present density of cheatgrass the proposed project may result in a reduction of sagebrush and an increase in cheatgrass; increasing the threat of fire. Since the proposed project targets a small highly degraded area, and seeks to restore the diversity of understory species, the risks of increasing cheatgrass are acceptable. The treatment area is small enough to serve as a study site in determining techniques to improve rangeland health. This will benefit both cattle and wildlife habitat while improving overall rangeland. The area supports some elk and deer during the winter months, and a high priority of the BLM is to manage wildlife habitat for their long term security and ecosystem health.

Wildlife impacts and treatments progress will be closely monitored so that changes in management can be made if needed.

##### **4.18.3 Protective/Mitigation Measures: None**

*Finding on the Public Land Health Standard 3 for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic):* Implementation of the proposed action would not affect Public Land Health Standard 3 for terrestrial plant and animal communities.

### **OTHER NON-CRITICAL ELEMENTS ANALYSIS:**

#### **4.19 ACCESS**

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##### **4.19.1 No Action**

There will be no impacts.

##### **4.19.2 Proposed Action**

There will be no impacts.

##### **4.19.3 Protective/Mitigation Measures: None**

#### **4.20 HYDROLOGY AND WATER RIGHTS**

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##### **4.20.1 No Action**

This would not have an impact on hydrology or water rights.

#### **4.20.2 Proposed Action**

In the short-term, a reduction in vegetation cover would create flashier runoff and increase water yield in receiving streams because vegetation helps retain water and moisture on site. As vegetation cover increases over time, this impact would diminish until it returns to pre-disturbance levels, likely over 5-10 years.

**4.20.3 Protective/Mitigation Measures:** None.

### **4.21 RANGE MANAGEMENT**

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#### **4.21.1 No Action**

Under the No Action Alternative this area will continue to produce poor forage and noxious weeds will out-compete native perennial vegetation. Livestock will not be able to utilize the project area due to poor forage conditions.

#### **4.21.2 Proposed Action**

The proposed action would improve rangeland condition for cattle on the Logan Gulch allotment by increasing desirable forage for livestock as well as improve plant vigor and condition in treatment area. Removing some sagebrush mechanically will reduce competition for perennial grasses and forbs and help out-compete cheatgrass creating a healthier plant composition. This treatment will create an area to help improve cattle distribution away from over utilized areas. This project will create desirable forage for cattle and wildlife while providing a critical seed source for surrounding areas. Production will be maintained by following an approved grazing management plan and limiting utilization of forage species to a sustainable level.

#### **4.21.3 Protective/Mitigation Measures:**

A minimum of two years rest from livestock grazing is required after the implementation of the project.

### **4.22 REALTY AUTHORIZATIONS**

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#### **4.22.1 No Action**

There will be no impacts to realty authorizations.

#### **4.22.2 Proposed Action**

Provided that the existing pipeline and road rights-of-way are identified and the project occurs outside of the right-of-way boundaries, there will be no impacts to existing realty authorizations.

#### **4.22.3 Protective/Mitigation Measures:**

The proposed action will avoid the existing natural gas pipeline and road rights-of-way.

### **4.23 RECREATION**

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#### **4.23.1 No Action**

There will be no impacts.

#### **4.23.2 Proposed Action**

There will be no impacts.

#### **4.23.3 Protective/Mitigation Measures:**

None

#### **4.24 TRANSPORTATION**

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##### **4.24.1 No Action**

There will be no impacts.

##### **4.24.2 Proposed Action**

There will be no impacts.

##### **4.24.3 Protective/Mitigation Measures**

None

#### **4.25 VISUAL**

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##### **4.25.1 No Action**

There will be no impacts.

##### **4.25.2 Proposed Action**

There will be no impacts.

##### **4.25.3 Protective/Mitigation Measures**

None

## **CHAPTER 5**

### **5.1 CUMULATIVE IMPACTS SUMMARY:**

#### **5.1 INTRODUCTION**

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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." These actions include current and projected area development or management activities, and authorizations on public lands; land use trends; and applicable industrial/infrastructure components. Although the individual impacts of each separate project might not be significant, the additive effects of multiple projects could be.

The CEQ guidance states: "It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful. For cumulative effects analysis to help the decision-maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for

evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to affected parties” (CEQ, 1997).

The geographic and temporal limitations the BLM has placed on its analysis are consistent with CEQ’s guidance (CEQ, 1997) which states that “cumulative effects result from spatial (geographic) and temporal (time) crowding of environmental perturbations.” With regard to the spatial, or geographic limitations, 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.

This chapter evaluates the cumulative effects of the Proposed Action with past, present, and reasonably foreseeable actions in the geographic setting of the Proposed Action. Within each of the evaluated actions, the resources that may be cumulatively affected are discussed.

## **5.2 PAST ACTIONS IN THE PROJECT AREA**

This area is dominated by agricultural development. There has been a large number oil and gas operations, including both drill pads and pipelines throughout the Roan Creek watershed as well. There has been some recent road construction adjacent to the project area. There have also been a number of vegetation treatments in this area. Within the Roan Creek watershed there has been an increasing amount of use of private outfitter and guest ranch activities.

## **5.3 PRESENT AND REASONABLY FORESEEABLE ACTIONS**

To assess present and reasonably foreseeable actions that may occur within the project area and that could potentially contribute to cumulative effects, a review of the BLM’s GJFO was completed. The proposed projects in these registers were reviewed based on their proximity to the project area and the potential resource impacts that might create cumulative effects when considering the resources impacted by the Proposed Action. Present and reasonably foreseeable actions that were identified outside of the NEPA register review, which could cause impacts that might be additive or cumulative. There is currently a master plan of oil and gas development proposed in the South Shale Ridge area by Black Hills. It is anticipated that there will be numerous oil and gas related roads and facilities in the future within this area. There are also future vegetative treatments proposed within the Roan Creek Watershed.

## **5.4 CONCLUSIONS**

The cumulative impacts from the proposed action will be a short term removal of vegetation and disturbance, but will have a long term net benefit impact for meeting standards and guides within the project area.

## **CHAPTER 6**

### **REFERENCES**

- Bureau of Land Management. 1985b. Draft Resource Management Plan and Environmental Impact Statement. Grand Junction Field Office. Grand Junction, Colorado.
- Bureau of Land Management. 1987. Grand Junction Resource Area Resource Management Plan and Record of Decision. Grand Junction District. Grand Junction, Colorado.
- Bureau of Land Management. 1988. H-1790-1 National Environmental Policy Handbook. Washington, D.C.
- Bureau of Land Management. 2007. Handbook of Guidelines and Procedures for Inventory, Evaluation, and Mitigation of Cultural Resources. Colorado State Office. Denver, Colorado.
- Conner, C. and B. Davenport. 2008. Class III CRIR for the proposed Debeque 24-10 Well Location and Related Access in Garfield County, Colorado, for Williams Production RMT Company (BLM GJFO CRIR 1109-03) Ms on File Grand Junction Field Office. Grand Junction, Colorado.
- Hartley, John. 1982. Archaeology Survey For Eight Teton Energy Company Well Locations And Associated Access, Garfield And Mesa Counties, Colorado (BLM GJFO CRIR 2082-30) Ms on File Grand Junction Field Office. Grand Junction, Colorado.
- Hill, David. 2009. Logan Gulch Vegetation Treatment: Limited Results of a Class III Cultural Resource Inventory, Mesa County, Colorado. (BLM GJFO CRIR 17309-01) Ms on File Grand Junction Field Office. Grand Junction, Colorado.

**CHAPTER 7**  
**CONSULTATION AND COORDINATION**

**7.1 List of Preparers and Participants**

Frank Dix and Todd Farrington (grazing permittees) were coordinated and donated 500 lbs of seed, a tractor, and labor for the project.

## INTERDISCIPLINARY REVIEW

NAME	TITLE	AREA OF RESPONSIBILITY
Christina Stark	Natural Resource Specialist	Soils, Realty Authorizations, Visual
Julia Christiansen	Natural Resource Specialist	Oil and Gas
Aline LaForge	Archaeologist	Cultural Resources, Native American Religious Concerns
Michelle Bailey	Outdoor Recreation Supervisor	Access, Transportation, Recreation, VRM, Wilderness, ACECs
Chris Ham	Interpretive Specialist	Wild & Scenic Rivers, NCA
Jim Dollerschell	Range Management Specialist	Range, Wild Horse & Burro Act
Scott Gerwe	Geologist	Geology, Paleontology
Alan Kraus	Hazard Materials Specialist	Hazardous Materials
Robin Lacy	Realty Specialist	Land Status/Realty Authorizations
Heidi Plank	Wildlife Biologist	Migratory Bird Treaty Act, T&E Species, Terrestrial & Aquatic Wildlife
Anna Lincoln	Ecologist	Range, Land Health Assessment, T&E Plant Species
Bob Fowler	Range Management Specialist	Vegetation, Range, Riparian, Floodplains
Matt Anderson	Environmental Coordinator	Air Quality, Environmental Justice, Prime & Unique Farmlands, Environmental Coordinator
Janny Choy	Hydrologist	Water Quality, Hydrology, Water Rights
Jacob Martin	Range Management Specialist	Range, Forestry
Mark Taber	Range Management Specialist	Invasive, Non-Native Species (Weeds)
Angie Foster Dou Paul	Fire Ecologist Natural Resource Specialist	Fire Ecology, Fuels Management

## **FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

### **DOI-BLM-CO-130-2010-0043-EA Logan Gulch Vegetation Treatment**

The environmental assessment and analysis of the environmental effects of the Logan Gulch Vegetation Treatment have been reviewed. The approved action results in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

RATIONALE: The analysis demonstrates that the proposed action will have little negative impact to the natural resources. The proposed action would improve rangeland condition for on the Logan Gulch allotment. Removing sagebrush mechanically will reduce competition for perennial grasses and forbs and help outcompete cheatgrass creating a healthier plant composition. This project will create desirable forage for cattle and wildlife while providing a critical seed source for surrounding areas.

## DECISION RECORD

DECISION: It is my decision to approve the 160 acres Logan Gulch Vegetation Treatment on Logan Gulch allotment.

RATIONALE:

Past land health and monitoring data has shown that the Logan Gulch allotment is in fairly poor condition presenting little forage options for cattle and wildlife. In order to re-establish a health mix of native grasses and forbs, a vegetation treatment is needed to reduce the cover of decadent sagebrush and improve plant diversity through the establishment of perennial herbaceous plants via seeding. Establishing a seed bank of desirable plants allows adjacent areas of the project to benefit from natural seed dispersal mechanisms, such as wind and animals. It is anticipated that the vigor, quantity and quality of all plant forms will increase as a result of this treatment. A comprehensive monitoring plan to compare resource response to the proposed treatment will guide future activities in the sagebrush plant community.

MITIGATION MEASURES:

The proposed project boundary will be adjusted to provide a 100 meter buffer around the recorded Colorado hookless cactus. Flagging will be adjusted to reflect the changed boundary, and a BLM representative will be on scene during project implementation to ensure that the buffered area is not treated. Access to the project site will be restricted to existing roads. In the event that road maintenance is required to access the proposed project site, road widening, or any other disturbance outside the existing road bed will not be authorized.

Prior to moving onto public lands, including project area, the Dixie harrow and all equipment must be removed of dirt that could contain weed seeds from previous projects. Equipment can be thoroughly washed with a power washer to remove all dirt.

To avoid direct impacts to nesting migratory birds ground and vegetation disturbing activities should not occur between May 15 and July 15.

A minimum of two years rest from livestock grazing is required after the implementation of the project.

COMPLIANCE/MONITORING:

The project will be monitored through a long term frequency plot already established in the project polygon.

NAME OF PREPARER: Jacob Martin

NAME OF ENVIRONMENTAL COORDINATOR: Matt Anderson

DATE: 12/15/09

SIGNATURE OF AUTHORIZED OFFICIAL:

*Catherine Kehua*

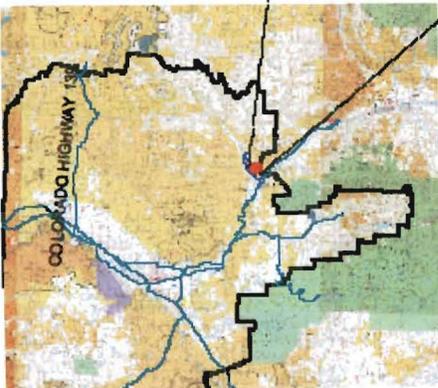
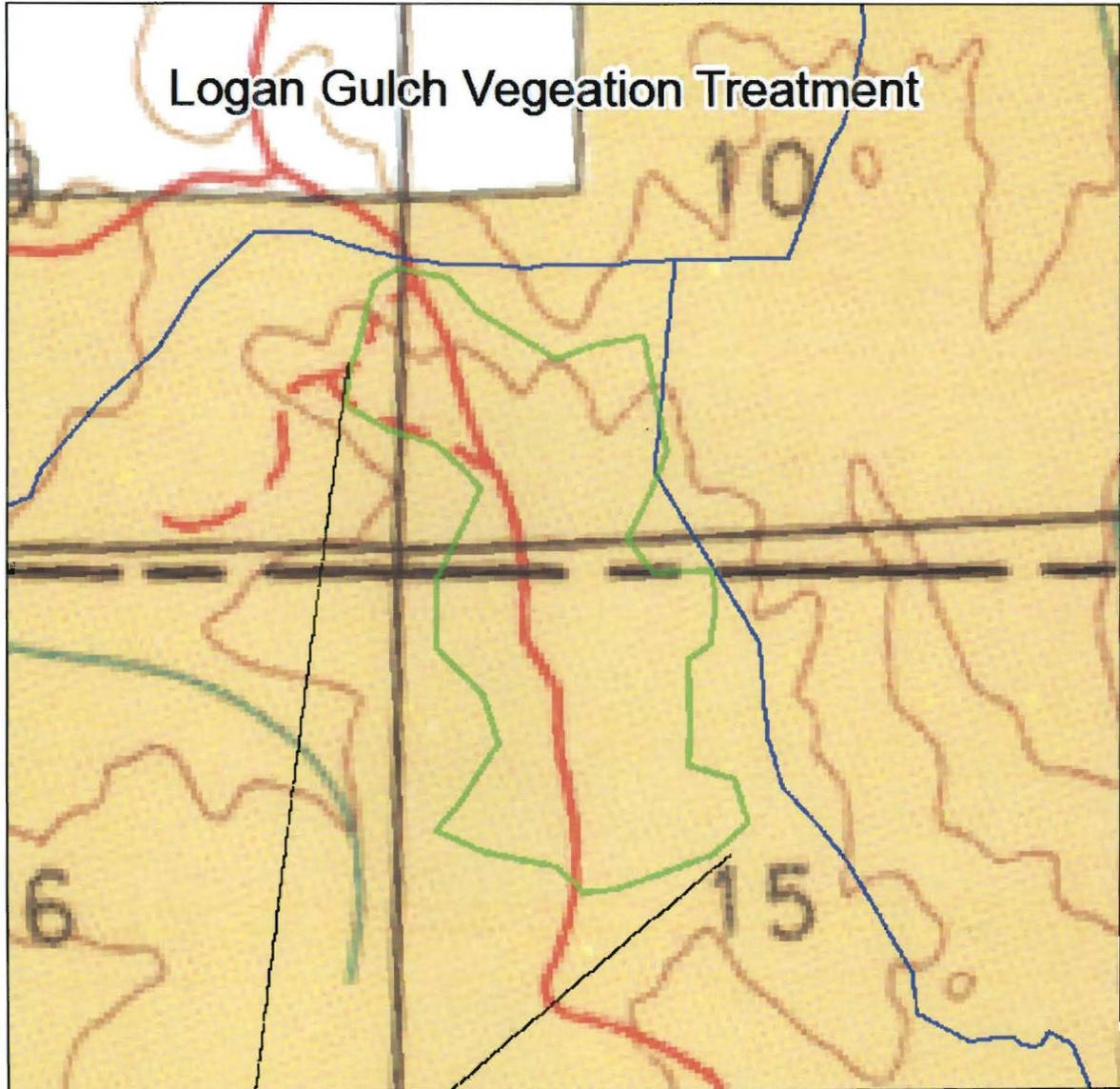
GRAND JUNCTION, Field Manager

DATE SIGNED:

7/16/0

ATTACHMENTS: Logan Gulch Vegetation Treatment – Map #1

Map #1:



**Logan Gulch Vegetation Treatment**

-  New\_Project\_Line
-  allotments

