

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

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**Environmental Assessment  
for the Sunnyside Wildlife Habitat Treatments**

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2815 H Road  
Grand Junction, Colorado 81506

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## CHAPTER 1 - INTRODUCTION

### 1.1 IDENTIFYING INFORMATION

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BACKGROUND: This EA has been prepared by the BLM to analyze the impacts of hand-thinning and scattering pinyon-juniper trees that are encroaching into areas dominated by sagebrush.

Sagebrush dominated habitats are important for a wide range of species during various seasons of the year (Braun et al. 2005, Carpenter et al. 1979). For example, sagebrush habitats are especially vital for wintering mule deer that rely on sagebrush during the winter as the snow depth increases and the availability of forbs and grasses decreases (Carpenter et al. 1979). Sage-grouse require large and continuous stands of relatively tall and robust sagebrush with a strong grass and forb component in the understory (Braun et al. 2005).

Sagebrush is extensive in its range throughout the western U.S., however, sagebrush ecosystems have become degraded since livestock grazing and fire suppression were introduced during Euro-American settlement. Sagebrush habitats still continue to face numerous threats from a wide variety of human developments and activities (Watkins et al. 2007). It is also thought that there has been an unprecedented increase in pinyon-juniper expansion within the past 150 years (Miller and Wigand 1994). In many areas, this has resulted in the expansion of pinyon-juniper woodlands into sagebrush habitats and alterations in historic fire regimes (Rich et al. 2005).

PROJECT NAME: Sunnyside Wildlife Habitat Treatments

PLANNING UNIT: Grand Junction Field Office

### 1.2 PROJECT LOCATION AND LEGAL DESCRIPTION

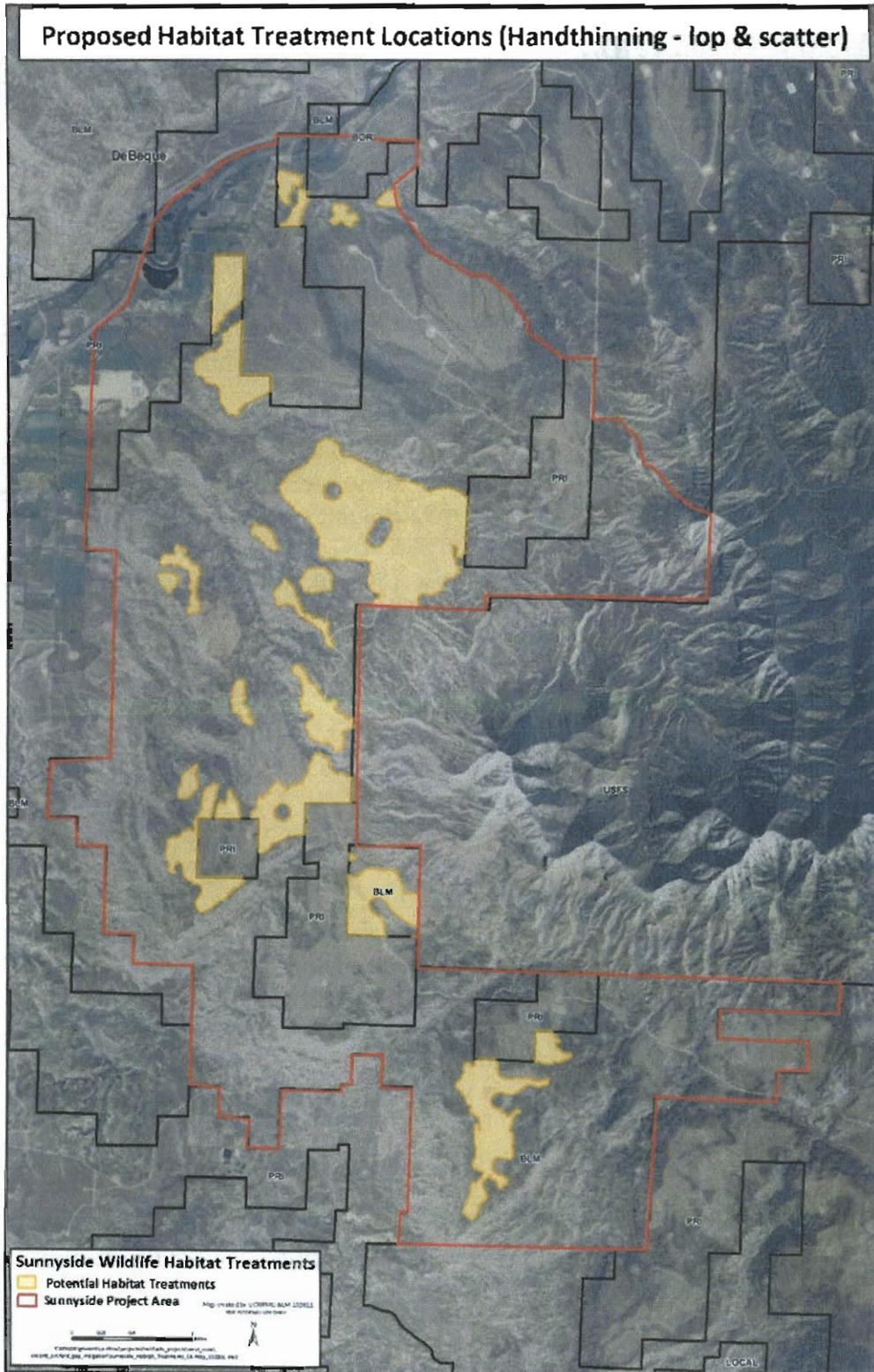
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#### LEGAL DESCRIPTION:

The Proposed Action is in Mesa County, Colorado and is located a couple of miles east and south of the town of DeBeque, about a mile east of the DeBeque cutoff road, approximately 2 miles North of Plateau Creek, and directly west of the White River/Grand Mesa National Forests (Figure 1). More specifically the project area is located in the 6<sup>th</sup> Principal Meridian, Township (T) 8 South (S), Range (R) 96 West (W), sections (secs.) 18 and 31, T. 8 S., R. 97 W., secs. 24, 26, 35, and 36, T. 9 S., R. 96 W., secs. 6, 19, 29, 30, 31, and 32, and T. 9 S., R. 97 W., secs. 1, 2, 11, 12, 13, 14, 23, and 24. A map of the proposed treatment areas is provided below (Figure 1).

Topography is characterized by a number of ridges and plateaus made by several drainages in the area. Vegetation consists of four primary vegetation types, sagebrush, grassland, pinyon-juniper, and saltbush.

Figure 1. Locations of proposed treatment areas.



### **1.3 PURPOSE AND NEED**

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The project area is in critical and severe winter range for both mule deer and elk. Mule deer require sagebrush flats in the winter for valuable forage. Recent surveys suggest this area may also be used as wintering habitat for sage grouse. Sagebrush habitat within the project area has been subjected to the same pressures as sagebrush ecosystems throughout the western US and has become degraded over time. The area continues to be and has historically been used for grazing which has altered many sagebrush communities by changing the historic fire regime and allowing pinyon-juniper to move into these areas. Grazing and other disturbances have also introduced invasive species, such as cheatgrass, into the understory of sagebrush stands within the project area. The combination of pinyon-juniper encroachment and spread of invasive species has reduced the amount of palatable browse and forage for both wildlife and livestock. Energy development in the area has further resulted in the loss of sagebrush habitat to compressor stations, staging areas, well pads, pipelines, and roads.

The purpose of this Proposed Action is to maintain and restore large, continuous patches of sagebrush for suitable wildlife habitat and sagebrush obligate species, while limiting the establishment and spread of invasive species. Removal of pinyon and juniper trees that are encroaching into sagebrush habitats will have an added benefit of helping to reduce fuel loading within sagebrush ecosystems and reduce the risk of uncharacteristically severe and/or frequent wildfires. This action is needed because many sagebrush flats throughout the area around the Sunnyside Road (V Road) have varying degrees of pinyon-juniper encroachment occurring. The use of crews on foot to cut and scatter trees and seed by hand in these sagebrush stands is preferred in order to help limit the spread of invasive species and reduce impacts to sensitive species and cultural sites. The Proposed Action is intended to restore sagebrush habitat by reducing pinyon-juniper encroachment, improve herbaceous species diversity, maintain open and healthy sagebrush shrublands, and increase the available browse and forage for wildlife.

### **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 Field Office Resource Management

Date Approved: January, 1987

Decision Number/Page: Chapter 2, Page 42, Paragraph 1

Decision Language: Under all alternatives, habitat of the major wildlife species would be actively managed using standard management practices.

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.

## **1.5 PUBLIC PARTICIPATION**

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

Persons/Public/Agencies Consulted: Scoping, by posting this project on the Grand Junction Field Office NEPA website, was the primary mechanism used by the BLM to initially identify issues. The White River and Grand Mesa National Forests and Colorado Parks and Wildlife have also been notified of the project by email and in person. The BLM is collaborating with Colorado Parks and Wildlife in planning priority treatment areas for the Proposed Action. The BLM also discussed the added project design features of the Proposed Action targeted at avoiding impacts to federally-listed species with Gina Glenne of the U.S. Fish and Wildlife Service, who agreed that the added protection measures would be adequate to protect federally-listed species. No other comments were received.

Issues Identified: No issues were identified during public scoping.

## **1.6 DECISION TO BE MADE**

The BLM will decide whether to implement the proposed Sunnyside Wildlife Habitat Treatments project based on the analysis contained in this Environmental Assessment (EA). This EA will analyze the potential impacts of hand-thinning and scattering encroaching pinyon-juniper trees into parks dominated by sagebrush. The BLM may choose to: a) implement the project as proposed, b) implement the project as modified with mitigation, or c) not implement the project at this time.

## CHAPTER 2 - PROPOSED ACTION AND ALTERNATIVES

### 2.1 INTRODUCTION

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

### 2.2 ALTERNATIVES ANALYZED IN DETAIL

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#### 2.2.1 Proposed Action

The Proposed Action is to remove pinyon and juniper trees that are encroaching into areas dominated by sagebrush. The methods used will be low-impact and will be conducted entirely on foot by crews using chainsaws to remove trees in open sagebrush parks.

The project specifically involves:

- Removal of 90 to 100% of pinyon and juniper trees less than 6 inches in diameter at the base of the tree by hand crews using chainsaws in sagebrush dominated areas.
- Pinyon and juniper trees larger than 6 inches can be cut in sagebrush dominated areas where Class 3 Cultural Surveys have been completed and there are no cultural concerns.
- The stumps would be cut to less than 6 inches in height and felled trees would be cut to smaller sizes and scattered. Trees would be left at their initial location to avoid dragging heavy material across the soil surface.
- Hand-cut vegetation would be left onsite and cut and scattered to a height below residual sagebrush, no burning would occur.
- Hand seeding a mixture of native grasses, forbs and shrubs (BLM-approved seed mix) would take place in sparsely vegetated areas and areas infested with cheatgrass to enhance herbaceous understory revegetation. Seed mix would be tested as certified to prevent the introduction of noxious weeds.

Project design criteria:

- The mosaic patterns of the individual units are designed to mimic natural patterns of disturbance with undulating edges. In order to maintain a natural appearing landscape. Treatments would avoid clearing vegetation in a linear corridors or straight lines.
- Noxious weeds would be monitored for 2 years following treatment.
- Hand seeding with a BLM-approved seed mix would be used to encourage establishment of native species in the treatment areas and may be used in areas that need seeding, but no tree thinning.
- Areas where threatened and endangered plant species and cultural sites are found would be avoided. Federally-listed and sensitive plants would be avoided by a 20-meter buffer. Significant cultural sites (those designated as eligible or potentially eligible (needs data) for the National Register of Historic Places) would be avoided by a 100-meter buffer.
- Vehicles would only travel on existing roads.
- Vehicles would only be parked along the impacted corridor of existing roads.
- In areas along roads where sensitive plant species are known to exist, no parking would be permitted.

- Areas with sparsely-vegetated slopes consisting of cracked, brown or gray clay will be avoided by 20 meters to avoid any potential impacts related to parking and trampling.
- To protect nesting migratory birds, no shrub or tree removal should take place from May 15 through July 15.
- Treatment activities using chainsaws should be avoided within 0.25 mile buffer of potential raptor nesting habitat from February 1 through August 15
- The owl banding station in the NE¼, SE¼, sec. 31, T8S, R96W, should be avoided.
- Monitoring for measurable objectives would be carried out at one year (minimum one growing season), three years, and ten years intervals from implementation to ensure objectives are met and mitigation for invasive or noxious weeds is successful. If conditions are identified from the third year monitoring, and the date indicates additional treatment for fuel hazards or weed control is needed, additional measures may be conducted based on the analysis of this document.

Areas that would be treated include only sagebrush dominated habitats with pinyon and/or juniper trees that are found in scattered, isolated locations. No removal or thinning of trees would take place in stands dominated by pinyon-juniper trees outside of sagebrush flats. No pile burning would take place. Representative photos of areas to be treated are shown in Figures 2 and 3.

Figure 2. Encroaching juniper into sagebrush dominated habitat.



Figure 3. Sagebrush with slightly more established juniper expanding into the site.



The Proposed Action would take place gradually by treating areas from about 5 to 750 acres over the course of approximately 10 years, and could eventually treat up to 1,600 to 2,000 acres of sagebrush flats on BLM land. The treatment acres are broken into multiple treatment areas that meet the criteria of sagebrush habitats to be targeted under the Proposed Action over several years (2011 to approximately 2021).

Areas that have been previously surveyed for cultural resources and sensitive plants and where no cultural sites or sensitive plants were found would be treated first. In other areas where treatments would be planned in future years, close coordination would occur with BLM cultural resource specialists, ecologists and biologists to assure avoidance of areas of concern. Cultural resource and sensitive plant surveys would be conducted in all areas that require surveys and cultural sites and sensitive plants would be avoided by the required distance.

Surveys for federally-listed and sensitive plants would all be conducted in-house prior to implementation of treatments within the project area. Crews would be advised to avoid parking at or walking through sparsely vegetated, steep slopes of chocolate-brown or gray clay (with a slight purple hue). Known locations of federally-listed and sensitive plants would be avoided by a 20-meter buffer.

The locations identified on the attached map (Figure 1) are potential treatment units. Treatments would likely take place at these units and other future identified units within the project area boundary that would benefit from the proposed treatments. When these additional treatment units are identified in the field, the treatments would be located within the overall project area boundary and within the scope of the Proposed Action defined in this EA. Proposed treatments within these units would be reviewed for NEPA adequacy prior to implementation; and all requirements specified in this EA and Decision Record would apply, including all cultural and special status species requirements.

### **2.2.2 No Action Alternative**

Under the No Action Alternative, no vegetation treatments would be conducted. The area would be managed for current vegetation types and sagebrush ecosystems would continue to experience pinyon-juniper woodland encroachment.

## **2.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL**

Mechanical treatments, using heavy equipment, have previously been proposed in some of the areas identified in this document in 2003 (BLM 2003). The treatments were not carried out in those areas where there was an understory containing cheatgrass. Mechanical treatments are not considered to be an alternative that needs further analysis in this EA, due to concerns with invasive species, federally-listed and sensitive plant species, and cultural resources. As a result, mechanical treatments are not included as an alternative that will be analyzed in detail.

Piling and burning the trees after they are cut by hand crews is another alternative. This alternative was not considered in detail because it is not considered necessary to achieve the objectives of this project and introduces other concerns with cultural resources and sensitive species.

Chipping slash produced by cut trees and spreading of chips is another alternative. This alternative was not considered in detail because it is not considered necessary to achieve the objectives of this project and introduces other concerns with cultural resources and sensitive species.

## **CHAPTER 3 - AFFECTED ENVIRONMENT AND EFFECTS**

### **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 will not be brought forward for additional analysis:

- Geology
- Minerals
- Paleontological Resources
- Riparian Areas. There are no riparian areas in the project area, so we will not make a finding for Land Health Standard 2.
- Wild and Scenic Rivers
- Wilderness
- Special Designations
  - Although the project contains an area that has been proposed for designation as an Area of Critical Environmental Concern (ACEC) during the Grand Junction Resource Management Plan revision that contains special or important Cultural, Wildlife, Threatened or Endangered Species, and Scenic resource values, it is not present under the current RMP.
- Prime or Unique Farmlands
- Social
- Economic

Several of these elements are present in the action area, but would not be affected by the proposed action and/or were not brought up as an issue during internal and external scoping.

### 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 the entire Grand Mesa North Data Analysis Unit (DAU12) which contains the seasonal habitat ranges required by the specific herd of mule deer that use that particular area (CDOW 2010). The DAU12 surrounds the entire project area containing the smaller units to be treated under the Proposed Action. 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, which may occur within the affected area:

Past Actions:

- 1994 Sunnyside Fire Rehab-Wildfire rehabilitation project. 80 acres were drill seeded. 30 acres were hand seeded.
- 1995 Little Horsethief III Fire Rehab- Wildfire rehabilitation project-285 acres were drill seeded. 100 acres broadcast seeded.

- 2003 – Sand Wash Wildland Urban Interface Fuels Reduction – this project completed a rollerchop habitat treatment on one unit in the northern end of the Proposed Action area.
- 2008 – Orchard II Master Development Plan – development of new and existing oil and gas well pads.
- 2009-Collbran Pipeline –Major pipeline project following the Sunnyside Road.
- 2009 Ashmead Fire Rehab- Wildfire rehabilitation project. 80 acres were drill seeded. 35 acres were broadcast seeded.
- Sunnyside Grazing allotment – grazing has and continues to be an activity in this area.

Present Actions:

- 2008 – Orchard II Master Development Plan– development of new and existing oil and gas well pads.
- 2010 - Sunnyside Grazing allotment – Permit renewal for grazing.

Reasonable Foreseeable Actions

- 2011 through 2015 – Orchard Horizontal Plan of Development – this project would consist of drilling year-round on 4 to 5 new and existing oil and gas well pads each year. New roads would be associated with the project and would concentrate on completing drilling on one mesa before moving to the next mesa. A pipeline gathering system would also be associated with this project.
- 2020 - Sunnyside Grazing allotment -- Permit renewal for grazing.

This list of past, present and reasonably foreseeable actions was considered when analyzing cumulative effects in sections 3.2, 3.3, 3.4, and 3.5 below.

## **3.2 PHYSICAL RESOURCES**

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### **3.2.1 Air Quality and Climate**

Current Conditions:

Air quality in the project area is typical of undeveloped regions in the western United States. The closest Class I Airsheds are the Raggeds Wilderness and Maroon Bells-Snowmass Wilderness Areas located approximately 45 air miles to the southeast.

The primary sources of air pollutants in the region are fugitive dust from the desert to the west of the planning area, unpaved roads and streets, seasonal sanding for winter travel, motor vehicles, and wood-burning stove emissions. Seasonal wildfires throughout the western U. S. may also contribute to air pollutants and regional haze. The ambient pollutant levels are usually near or below measurable limits, except for high short-term increases in PM10 levels (primarily wind-blown dust), ozone, and carbon monoxide. Within the Rocky Mountain region, occasional peak ozone levels are relatively high, but are of unknown origin. Elevated concentrations may be the result of long-range transport from urban areas, subsidence of stratospheric ozone or photochemical reactions with natural hydrocarbons. Occasional peak concentrations of CO and

SO<sub>2</sub> may be found in the immediate vicinity of combustion equipment. Locations vulnerable to decreasing air quality include the immediate areas around mining and farm tilling, local population centers, and distant areas affected by long-range transportation of pollutants. Representative monitoring of air quality in the general area indicates that the existing air quality is well within acceptable standards.

The EPA General Conformity regulations require that an analysis (as well as a possible formal conformity determination) be performed for federally sponsored or funded actions in non-attainment areas and in designated maintenance areas when the total direct and indirect net air pollutant emissions (or their precursors) exceed specified levels. Since the GJFO is not within a non-attainment or a maintenance area, the Clean Air Act conformity regulations do not apply.

#### No Action

**Direct and Indirect Effects:** No direct impacts are anticipated under the No-Action alternative. Indirect impacts to air quality may occur if pinyon-juniper encroachment progresses increasing fuel loading and elevating potential for high intensity wildfire. Particulate matter associated with wildfire may reduce air quality until suppression efforts are completed.

**Cumulative Effects:** Cumulative effects to air quality could occur if pinyon-juniper encroachment were to occur at the landscape scale. Increased fuel loading and elevated potential for large, high intensity wildfire over the landscape could collectively deteriorate air quality for extended periods of time.

#### Proposed Action

**Direct and Indirect Effects:** No direct impacts are anticipated with implementation of the proposed action. No surface disturbance is proposed. Indirectly, the proposed action would reduce fuel loading and minimize risk of large, high intensity wildfire. Reduced wildfire potential will also reduce potential for air quality deterioration associated with large, high intensity wildfire.

**Cumulative Effects:** Implementation of the proposed action could help reduce potential for large, high intensity wildfire which would also reduce potential for air quality deterioration associated with such events.

**Protective/Mitigation Measures:** No additional mitigation is required as protective/mitigation measures built into the proposed action are adequate.

### **3.2.2 Soils (includes a finding on Standard 1)**

#### Current Conditions:

Soils on the lower sideslopes of the incised valleys and in the DeBeque and Sunnyside areas are developing in colluvium and alluvial sediments of the

Wasatch Shale Formation. These soils are clayey, shallow to 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 sideslopes 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. Precipitation ranges from 11 inches, to over 23 inches at the highest elevations.

A land health assessment was conducted within the proposed project area in 2010. Data collected as part of this effort indicates most of the affected soils are not meeting public land health standard 1 for the following reasons: poor perennial vegetative cover, soil movement above natural rates, excessive erosion, pedestalling, compaction, and gully formation.

#### No Action

Direct and Indirect Effects: Under the No-Action alternative BLM would not treat sagebrush parks which are being degraded by pinyon-juniper encroachment. Pinyon-Juniper encroachment would likely continue in these areas. Encroachment of pinyon and juniper has been linked to reduced forage production, altered wildlife habitat, changes in plant community structure and composition, and increased overland flow and erosion from these landscapes (Pierson et. al., 2008). Increased overland flow and elevated erosion rates would result from decreased effective ground cover where encroaching pinyon and juniper trees shade out desirable species. As effective ground cover is reduced, the percentage of, and connectivity between areas of bare soil is elevated. These factors enhance potential erosion, sediment transport, and invasion by undesirable vegetation from/within encroachment areas if left untreated.

Cumulative Effects: Cumulatively, the No-Action alternative would do nothing to preventing the long-term decline in ecological conditions that accompany vegetation encroachment. The anticipated impact would be reduced overall watershed function and condition (hydrologic, nutrient, and energy cycles). Desirable vegetative communities would be shaded out increasing potential establishment of noxious/invasive annuals (e.g. cheat grass) and/or increased percentage of bare ground. In response, soil and vegetative health would be anticipated to decline over time.

Finding on Land Health Standard 1: A land health assessment was conducted within the proposed project area in 2010. Data collected as part of this effort indicates most of the affected soils are not meeting public land health standard 1 for the following reasons: poor perennial vegetative cover, soil movement above natural rates, excessive erosion, pedestalling, compaction, and gully formation. The No-Action alternative is not anticipated to alter this finding.

### Proposed Action

Direct and Indirect Effects: As outlined in the proposed action, no surface disturbance will occur with implementation of the treatments. Thus, no direct negative impacts to soil resources are anticipated. Indirectly, the proposed action will result in restoration of functional sagebrush parks by thwarting pinyon and juniper encroachment and helping establish desirable grass understory's promoting enhanced soil stabilizing characteristics elevating soil health.

Cumulative Effects: Cumulatively, the removal of encroaching pinyon and juniper would be beneficial to overall soil health. Preventing the long-term decline in ecological conditions that accompanies vegetation encroachment would result in better watershed function and condition (hydrologic, nutrient, and energy cycles). Healthy, desirable vegetative communities would better stabilize soils (maintain natural rates of erosion), improve soil infiltration, elevate soil moisture storage potential, promote maintenance of soil productivity, decrease overland flow potential (energy dissipation), and reduce erosion.

Protective/Mitigation Measures: No mitigation is necessary given protective measures are built into the proposed action.

Finding on Land Health Standard 1: A land health assessment was conducted within the proposed project area in 2010. Data collected as part of this effort indicates most of the affected soils are not meeting public land health standard 1 for the following reasons: poor perennial vegetative cover, soil movement above natural rates, excessive erosion, pedestalling, compaction, and gully formation. Implementation of the proposed action is anticipated to improve soil health over time given favorable environmental conditions. However, Land Health Standard 1 will continue to not be met until further assessment determines otherwise.

### **3.2.3 Water (surface and groundwater, floodplains) (includes a finding on Standard 5)**

#### Current conditions:

*Surface Water:* The proposed project area is located within water quality control stream segments 2a, 12b, 13a, and 16 of the Lower Colorado River Basin. Stream segment 2a is defined as "mainstem of the Colorado River from immediately below the confluence with Rifle Creek to immediately above the confluence of Rapid Creek". Water quality stream segment 2a is not classified as "Use Protected" thus the Antidegradation Rule is applicable. For this reach, minimum standards for physical and biological, inorganics and metals are listed in Table 1 (CDPHE-WQCC. 2010a).

Stream segment 12b of is defined as "All tributaries and wetlands to the Colorado River from a point immediately below the confluence of Parachute Creek to a point immediately below the confluence with Roan Creek". Water quality stream segment 12b is not classified as "Use Protected" thus the Antidegradation Rule is

applicable. For this reach, minimum standards for physical and biological, inorganics and metals are listed in Table 1 (CDPHE-WQCC. 2010a).

Stream segment 13a of the Lower Colorado River Basin is defined as “All tributaries to the Colorado River including wetlands, from a point immediately below the confluence of Roan Creek to the Colorado/Utah border except for the specific listings in Segments 13b through 19”. The State has classified this stream segment as "Use Protected". The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For this reach, minimum standards for physical and biological, inorganics and metals are listed in Table 1. Beneficial use classifications for stream segment 13a are aquatic life warm 2, Recreation P, and agriculture (CDPHE-WQCC 2010a).

Through the CDPHE-Water Quality Control Division (WQCD) bi-annual review of the Status of Water Quality in Colorado - 2010, stream segment 15 was split to facilitate the adoption of appropriate temperature standards creating stream segment 16 (CDPHE, Regulation No. 37). Stream segment 16 is defined as “Plateau Creek including all tributaries and wetlands, from the HYW 300 bridge in Collbran, to the confluence with the Colorado River, excluding specific listings in segment 15” (CDPHE-WQCC. 2010a). Water quality stream segment 16 is not classified as “Use Protected” thus the Antidegradation Rule is applicable. For this reach, minimum standards for physical and biological, inorganics and metals are listed in Table 1 (CDPHE-WQCC. 2010a).

The primary streams draining the project area are Horsethief Cr., Little Horsethief Cr., Atwell Gulch, Little Alkali Cr., Shire Gulch, Ashmead Draw, and the Colorado River. Only the Colorado River is perennial and none of the proposed treatments would occur within stream channels, floodplains, or riparian zones.

Table 1 identifies stream classifications and water quality standards for affected Lower Colorado River Basin stream segments as outlined in CDPHE, Regulation No. 37.

Stream Segment	Classifications	Numeric Standards					
		Physical and Biological	Inorganic (mg/l)		Metals (ug/l)		
COLCLC02a	Aq Life Warm 1 Recreation E Water Supply Agriculture	T=TVS(WS-II) .C D O = 5.0 mg/l pH = 6.5-9.0 E.Coli=126/100ml	NH <sub>3</sub> (ac/ch)=TVS Cl <sub>2</sub> (ac)=0.019 Cl <sub>2</sub> (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO <sub>2</sub> =0.05 NO <sub>3</sub> =10 Cl=250 SO <sub>4</sub> =WS	As(ac)=340 As(ch)=0.02(Trec) Cd(ac/ch)=TVS CrIII(ac)=50(Trec) CrVI(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ch)=WS(dis) Mn(ac/ch)=TVS Hg(ch)=0.01(tot)	Ni(ac/ch)= TVS Se(ac/ch)= TVS Ag(ac/ch)= TVS Zn(ac/ch)= TVS
COLCLC12b	Aq Life Cold 2 Recreation P Water Supply Agriculture	T=TVS(CS-II) .C D O = 6.0 mg/l D O (sp)=7.0 mg/l pH=6.5-9.0 E.Coli=205/100ml	NH <sub>3</sub> (ac/ch)=TVS Cl <sub>2</sub> (ac)=0.019 Cl <sub>2</sub> (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO <sub>2</sub> =0.05 NO <sub>3</sub> =10 Cl=250 SO <sub>4</sub> =WS	As(ac)=340 As(ch)=0.02- 10(Trec) Cd(ac)=TVS(tr) Cd(ch)=TVS CrIII(ac)=50(Trec) CrVI(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=WS(dis) Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ch)=WS(dis) Mn(ac/ch)=TVS Hg(ch)=0.01(tot)	Ni(ac/ch)= TVS Se(ac/ch)= TVS Ag(ac)=TV S Ag(ch)=TV S(tr) Zn(ac/ch)= TVS

COLCLC13a	Aq Life Warm 2 Recreation P Agriculture	T=TVS(WS-IV) °C D.O.= 5.0 mg/l pH = 6.5-9.0 E.Coli=205/100ml	CN(ac)=0.2 NO <sub>2</sub> =10 NO <sub>3</sub> =100	B=0.75	As(ch)=100(Trec) Be(ch)=100(Trec) Cd(ch)=10(Trec) CrII(ch)=100(Trec)	CrVI(ch)=100(Trec) Cu(ch)=200(Trec) Pb(ch)=100(Trec) Mn(ch)=200(Trec)	Ni(ch)=200 (Trec) Se(ch)=200 (Trec) Zn(ch)=200 0(Trec)
COLCLC16	Aq Life Cold 1 Recreation E Water Supply Agriculture	T = TVS (CS-II) °C D.O. = 6.0 mg/l D.O. (sp) = 7.0 mg/l pH = 6.5-9.0 E. Coli = 126/100ml	NH <sub>3</sub> (ac/ch)=TVS Cl <sub>2</sub> (ac)=0.019 Cl <sub>2</sub> (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO <sub>2</sub> =0.05 NO <sub>3</sub> =10 Cl=250 SO <sub>4</sub> =WS	As (ac)=340, As(ch)=0.02 (Trec) Cd(ac/cj)=TVS CrIII(ac)=50(Tre c) CRVI(ac/ch)=TV S CU(ac/ch)=TVS	Fe(ch)=WS(dis ) Fe(ch)=1000(T rec) Pb(ac.ch)=TVS Mn(ch)=WS(di s) Mn(ac/ch)=TV S Hg(ch)=0.01(t ot)	Ni(ac.ch) )=TVS Se(ac/ch )=TVS Ag(ac/ch )=TVS Zn(ac/ch )=TVS

CDPHE-WQCC. 2010a

The CDPHE —Integrated Water Quality Monitoring and Assessment Report-2010 update to the 2008 305(b) Report (CDPHE-WQCC. 2010c) was reviewed to determine the current status of assessment and determination of water quality within the proposed project area. The Colorado Integrated Reporting Category (IR) value assigned to affected portions of segments 2a, 13a, and 16 in the —Status of Water Quality in Colorado – 2010 document was IR=2; affected portions of stream segment 12b was assigned an IR value of 3. In Colorado, the majority of the assessed surface water bodies fall into IR Categories 1, 2, and 3. Category 1 indicates waters attaining water quality standards. Colorado has elected to place segments where not all uses have been assessed in IR Category 2. In some cases, a complete assessment of all uses cannot be completed do to the lack of data, but the data that is available indicates that at least some of the uses that were assessed are fully supporting. IR Category 3 indicates that insufficient data is available to determine whether or not the classified uses are being attained. Category 4 indicates waters which are not supporting a standard for 1 or more classified uses, but a TMDL is not needed. IR Category 5 indicates that available data and/or information indicate that at least one classified use is not being supported or is threatened, and a TMDL is needed. Segments must be placed in Category 5 when, based on existing and readily available data and/or information, technology-based effluent limitations required by the Clean Water Act (CWA), more stringent effluent limitations, and other pollution control requirements are not sufficient to implement an applicable water quality standard and a TMDL is needed. This category constitutes the Section 303(d) list of waters impaired by a pollutant (CDPHE-WQCC. 20010c).

The 2010 CDPHE-WQCC Regulation No. 93 Section 303d List of Impaired Waters and Monitoring and Evaluation List, was reviewed to determine if Lower Colorado River stream segments 2a, 12b, 13a, and 16 were listed. Stream segment 2a is identified on the State's Monitoring and Evaluation List for potential sediment impairments. Stream segments 12b, 13a, and 16 are not

identified on the 303(d) or Monitoring and Evaluation list (CDPHE-WQCC. 2010b).

*Groundwater:* The proposed action is situated within Piceance Structural Basin located in western Colorado. The Piceance Basin is an elongated structural depression trending northwest - southeast. The basin is more than 100 miles long and has an average width of over 60 miles, encompassing an area of approximately 7,110 square miles. The Piceance structural basin encompasses varying portions of Moffat, Rio Blanco, Garfield, Mesa, Pitkin, Delta, Gunnison, and Montrose counties (Topper et. al. 2003).

Being part of the Colorado Plateau physiographic province, the Piceance Basin is characterized by a series of high plateaus and deep valleys. Down-cutting of the Colorado River has divided the Piceance Basin into a northern and southern province. The proposed action is located in the southern province. The southern province is marked by two significant erosional remnants, Grand Mesa and Battlement Mesa. The Northern Province, that portion of the Piceance Basin between the Colorado and White Rivers, still retains basin-like features with rocks dipping inward from the margins toward the deepest part of the basin at the northern end (Topper et. al. 2003).

The principal bedrock aquifers south of the Colorado River; the upper Tertiary-age aquifers have largely been eroded off, exposing a thick basal confining unit of the lower Green River and Wasatch Formations. As such, most water supply wells in the southern portion of the Piceance Basin are completed in the alluvial aquifers associated with the Colorado and Gunnison River tributaries (Topper et. al. 2003).

Surface geology at the proposed project site is dominantly Tertiary aged Wasatch Formation. The Wasatch Formation is comprised of interbedded shale and lenticular sandstone. The Wasatch formation is generally thought of as a confining unit however, field observation of sandstone intervals reveal these deposits can produce limited quantities of water. Isolated quaternary gravel deposits are also present. These deposits are primarily located within major drainages and would be the primary source of groundwater nearest the project area. These localized aquifers are recharged throughout the year by seasonal precipitation events and snowmelt runoff.

**Table 2: Hydrogeologic Units of the Piceance Basin**

Era	System	Series	Stratigraphic Unit	Unit Thickness (feet)	Physical Description	Hydrogeologic Unit	Saturated Thickness (feet)	Hydrologic Characteristics
Cenozoic	Tertiary	Eocene	Uinta Formation	0-1,400	Silty sandstone, siltstone and marlstone	Upper Piceance Basin aquifer		Conductivity range <0.2 to >1.6 ft/day; yield 1 to 900 gpm; transmissivity 610-770 ft <sup>2</sup> /day
			Green River Formation	As much as 5,000	Parachute Creek Member kergonous, dolomitic marlstone and shale 500-1,800 ft	Mahogany confining unit		
						Lower Piceance Basin aquifer		
						Confining unit		
		Wasatch Formation	About 5,000	Shale and lenticular sandstone				
Paleocene	Fort Union Formation	Very thin	Coarse-grained sandstone	Fort Union aquifer				
Mesozoic	Cretaceous	Upper Cretaceous	Mesaverde Group	Averages 3,000 may be >7,000	Fox-Hills Sandstone, Lewis Shale, Williams Fork Formation, Iles Formation; sandstone interbedded shale and coal	Mesaverde aquifer	<500-2,000	
			Mancos Shale	More than 7,000	Mainly shale but Frontier Sandstone may be local aquifer	Mancos confining unit		

Topper et. al. 2003

*Water Rights:* A review of the BLM GJFO springs database did not reveal any springs within the proposed project area. The proposed action will have no impact to water rights.

Finding on Land Health Standard 5: None of the affected stream segments are identified on the State's 303(d) List of Impaired Water Bodies. Thus, Standard 5 is currently being met within the planning area.

No Action

Direct and Indirect Effects: Under the No-Action alternative BLM would not treat sagebrush parks which are being degraded by pinyon-juniper encroachment. Pinyon-Juniper encroachment would likely continue in these areas. Encroachment of pinyon and juniper has been linked to reduced forage production, altered wildlife habitat, changes in plant community structure and composition, and increased overland flow and erosion from these landscapes (Pierson et. al., 2008). Increased overland flow and elevated erosion rates would result from decreased effective ground cover where encroaching pinyon and juniper trees shade out desirable species. As effective ground cover is reduced, the percentage of, and connectivity between areas of bare soil is elevated. These factors enhance potential erosion and downstream water quality deterioration from encroachment areas if left untreated.

Cumulative Effects: Cumulatively, the No-Action alternative would do nothing to preventing the long-term decline in ecological conditions that accompanies vegetation encroachment. The anticipated impact would be reduced overall watershed function and condition (hydrologic, nutrient, and energy cycles). Desirable vegetative communities would be shaded out increasing potential establishment of noxious/invasive annuals (e.g. cheat grass) and/or increased percentage of bare ground. In response, soil and vegetative health would be anticipated to decline over time. Decreased soil and vegetative health would result in decreased soil infiltration rates, reduced soil moisture storage potential, limited soil productivity, elevated overland flow potential, and increased sediment delivery to area streams. Collectively, these associated impacts would deteriorate water quality.

Finding on Land Health Standard 5: The State identified water quality stream segments within the project area currently meet State standards. However, under the No-Action alternative erosion and sedimentation rates are anticipated to be elevated above natural rates, leading to decreased water quality. Land Health Standard 5 will continue to be met until future assessments determine otherwise.

#### Proposed Action

Direct and Indirect Effects: As outlined in the proposed action, no surface disturbance will occur with implementation of the treatments. Thus, no direct negative impacts to surface or groundwater quality are anticipated. Indirectly, the proposed action will result in restoration of functional sagebrush parks by thwarting pinyon and juniper encroachment and helping establish desirable grass understory's promoting enhanced watershed function and condition.

Cumulative Effects: Cumulatively, the removal of encroaching pinyon and juniper would be beneficial to overall watershed health. Preventing the long-term decline in ecological conditions that accompanies vegetation encroachment would result in better watershed function and condition (hydrologic, nutrient, and energy cycles). Healthy, desirable vegetative communities would better stabilize soils (maintain natural rates of erosion), improve soil infiltration, elevate soil moisture storage potential, promote maintenance of soil productivity, decrease overland flow potential (energy dissipation), and reduce sediment delivery to area streams thus protecting protect water quality.

Finding on Land Health Standard 5: The State identified water quality stream segments within the project area currently meet State standards. Implementation of the proposed action is not anticipated to alter this finding.

Protective/Mitigation Measures: No additional mitigation is necessary as protective measures built into the proposed action are adequate.

### **3.3 BIOLOGICAL RESOURCES**

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#### **3.3.1 Invasive, Non-native Species**

##### Current Conditions:

This area was surveyed for noxious weeds during the 2004 field season by BLM weed staff. Isolated and small infestations of Russian knapweed and musk thistle were found in the general Sunnyside area, and all have been treated by BLM crews. The area is susceptible to cheatgrass invasion, however the area also exhibits good potential success with mechanical re-vegetation techniques following disturbance (especially fire).

##### No Action

Direct and Indirect Effects: There would be no direct, indirect, or cumulative effects on weed management by not conducting the project.

##### Proposed Action

Direct, Indirect, and Cumulative Effects: Direct, indirect, and cumulative impacts of the project are negligible from a weed perspective given the light-hand techniques and prevention measures already in place for other resources (e.g. driving on existing roads).

#### **3.3.2 Sensitive Species**

##### Current Conditions:

##### *BLM Sensitive Terrestrial and Aquatic Wildlife and Plant Species:*

Within the project area, recent surveys (2007, 2008, 2009) detected numerous special status plant species. Three BLM sensitive plant species occur within and near the project area: DeBeque milkvetch, Naturita milkvetch, and aromatic Indian breadroot. The Adobe thistle has also been recorded within the Project area and is fairly widespread throughout the area.

BLM sensitive mammal species that have the potential to occur in the area consist primarily of four bat species: big free-tailed bat, fringed myotis, spotted bat, and Townsend's big eared bat. The four bat species have not been documented in the area within and surrounding the project area; however, it does contain suitable habitat and they could potentially casually pass through or use the area for foraging. Three BLM sensitive reptile species, long-nosed leopard lizard, midget-faded rattlesnake, and milk snake, and one BLM sensitive amphibian species, Great Basin spadefoot also have the potential to be present in the project area.

Greater and Gunnison sage-grouse, which are both candidates for federally listing, have the potential to use the habitat available in the project area. The area is within the historic range for both species of sage-grouse and the project area contains potentially suitable habitat for sage-grouse. Evidence of sage-grouse use in the vicinity of the project area was found during a survey in 2008 which would indicate their presence during the winter of 2008 to 2009. At this time is unclear if the sage grouse are Gunnison or greater sage grouse, although it is likely to be

greater sage-grouse. Successful habitat improvement projects for mule deer and sage-grouse have been completed within the project area as well. The action area also includes foraging habitat for BLM sensitive peregrine falcons and winter foraging areas for BLM sensitive bald eagle. Other BLM sensitive species that are listed in the migratory bird section of this document, such as Brewer's sparrow and gray vireo may use the sagebrush and pinyon-juniper habitat for nesting.

#### *Migratory Birds:*

Habitat throughout the project area is dominated by a mix of different community structures containing juniper, pinyon-juniper and sagebrush vegetation. Riparian areas within the project area contain mostly greasewood, both native and exotic riparian shrubs, and a few small stands of cottonwood. The vegetation types within the area provide cover, nesting, and foraging habitat for a wide variety of migratory bird species.

Bird species of priority conservation concern have been identified within Bird Conservation Regions (BCRs) by the U.S. Fish and Wildlife Service as Birds of Conservation Concern (BCC) (USFWS 2008). Birds of Conservation Concern (BCC) identified by the U.S. Fish and Wildlife Service include the species in Bird Conservation Region (BCR) 16 that have the potential to occur within the Project area (USFWS 2008). Based on the habitat present within the Project area, BCC that may be present include bald eagle, golden eagle, peregrine falcon, prairie falcon, long-billed curlew, yellow-billed cuckoo, gray vireo, pinyon jay, juniper titmouse, Brewer's sparrow, and Cassin's finch. Of the BCC species listed here, gray vireo, pinyon jay, juniper titmouse, and Brewer's sparrow, which is a sagebrush obligate species, are most likely to use the habitat within the project area for nesting. The remainder of the species have suitable nesting habitat nearby and may travel through or forage in the area.

Additional species that were noted during previous biological surveys and migratory bird nest surveys for the Collbran Pipeline within the project area, included mourning dove, northern flicker, gray flycatcher, dusky flycatcher, Say's phoebe, eastern kingbird, Steller's jay, common raven, violet-green swallow, barn swallow, mountain chickadee, white-breasted nuthatch, canyon wren, blue-gray gnatcatcher, mountain bluebird, Townsend's solitaire, chipping sparrow, vesper sparrow, and meadowlark. Other migratory bird species that were not observed during previous surveys that may use the habitat within the project area, include, but are not limited to broad-tailed hummingbird, ash-throated flycatcher, western kingbird, loggerhead shrike, Cassin's vireo, American robin, black-throated gray warbler, Virginia's warbler, lark sparrow, and sage sparrow.

The pinyon-juniper and riparian communities in the area also provide potential nesting habitat for red-tailed hawk, Cooper's hawk, sharp-shinned hawk, northern saw-whet owl. Other raptors, such as northern harrier and great-horned owl may also use the area for foraging purposes. An owl banding station, operated by the

Rocky Mountain Bird Observatory is present in the southeastern edge of the largest treatment polygon in the northcentral portion of the project area (NE¼, SE¼, sec. 31, T8S, R96W).

#### No Action

Direct and Indirect Effects: Under the No Action alternative, sagebrush flats would not be treated to remove encroaching pinyon-juniper trees and improve the understory vegetation community. This alternative would not directly impact sensitive wildlife and plant species. However, the No Action alternative would indirectly impact species, such as Brewer's sparrow and other sagebrush-obligate species by allowing them to be converted to pinyon-juniper forested habitats over time. No seeding of native herbaceous plant species would take place and cheatgrass would continue to dominate the understory of many of the sagebrush flats in the project area.

Finding on the Public Land Health Standard 4 for threatened, endangered and sensitive species: Under this alternative, Public Land Health Standard 4 may not be met, because vegetation management practices that may help to improve areas that have been invaded by non-native vegetation and improve the vigor of native perennial vegetation and sagebrush would not take place.

Cumulative Effects: Not implementing the Proposed Action could contribute to cumulative impacts from past, present, and reasonably foreseeable actions to sensitive species and migratory birds. Sagebrush habitat would continue to be degraded by grazing practices and lost to development. Existing sagebrush habitat that is in poor health would not be restored or treated, which would result in the further loss of crucial sagebrush habitat in which some sensitive species rely.

#### Proposed Action

Direct and Indirect Effects: The Proposed Action could directly impact BLM-sensitive plant species that are present in the project area due to trampling by crews on foot and/or driving and parking off existing roadways; however, the Proposed Action is designed to avoid impacts to sensitive plant species by requiring that vehicles travel and park on existing roads and areas where sensitive species are known to exist will be avoided by 20 meters. Treatments would be avoided in and around the owl banding station. The Proposed Action would not have any direct impacts on sensitive wildlife species. Indirect effects to sensitive plant and animal species are also not anticipated. The Proposed Action would be beneficial to species that rely on sagebrush habitats and would help to maintain a mosaic pattern of habitats across the landscape that is beneficial to all wildlife species.

Finding on the Public Land Health Standard 4 for threatened, endangered and sensitive species: Under this alternative, Public Land Health Standard 4 would be met if the treatment areas improve the health and vigor of native perennials and

sagebrush communities, which would in turn provide better habitat for sensitive species.

Cumulative Effects: The Proposed Action is not anticipated to contribute to the cumulative effects of grazing and oil and gas development in the area, because the proposed project is intended to improve and maintain vegetation communities and habitat in the area.

### **3.3.3 Threatened or Endangered Species (includes a finding on Standard 4)**

#### Current conditions:

Several recent surveys (2007, 2008, 2009) have detected two federally-listed plant species in the project area: Colorado hookless cactus (threatened) and DeBeque phacelia (proposed). Both species occur throughout the Project area. The cactus has the highest potential to occur within the treatment areas, as it sometimes occurs on lower mesa slopes in desert shrub communities at elevations from 4,500 to 6,000 feet. DeBeque phacelia occurs on sparsely vegetated, steep slopes consisting of brown or gray clay with large cracks due to the high shrink/swell potential of the clays. These types of soils and slopes are present in areas adjacent to the proposed treatment areas, but would be excluded from the treatment area, because it is not the type of habitat being targeted in this project.

The project area does not have any habitat or populations of federally-listed wildlife species. The Battlement Lynx Analysis Unit is adjacent to the project area in the Grand Mesa National Forest and slightly overlaps the southwestern finger of the project area. No suitable habitat for Canada lynx, a federally threatened species, exists within the project area; however, there is potentially suitable wintering habitat on adjacent U.S. Forest Service lands and as a result, Canada lynx may potentially travel through the area.

Standard 4 of the BLM Standards for Public Land Health require the BLM to manage threatened and endangered species and their habitat by sustaining healthy, native plant and animal communities. Public land health standards have been evaluated in this area and have been determined to be meeting overall and biotic integrity land health standards throughout the majority of the project area. The areas proposed for treatments contain some patches of land that are meeting land health standards, but mostly lie within areas that are not meeting overall public land health standards due to livestock overutilization and heavy grazing and invasions of cheatgrass.

#### No Action

Direct and Indirect Effects: The No Action alternative would not directly impact threatened or endangered plant and wildlife species. However, no seeding of native herbaceous plant species would take place and cheatgrass would continue to dominate the understory of many of the sagebrush flats in the project area,

which could negatively affect threatened and endangered plant species, such as the Colorado hookless cactus by reducing the quality of habitat for this species.

Finding on the Public Land Health Standard 4 for threatened, endangered and sensitive species: Under this alternative, Public Land Health Standard 4 may not be met, because vegetation management practices that may help to improve areas that have been invaded by non-native vegetation and improve the vigor of native perennial vegetation and sagebrush would not take place.

Cumulative Effects: Not implementing the Proposed Action could contribute to cumulative impacts to threatened and endangered species. Sagebrush habitat would continue to be degraded by grazing practices and lost to rural and oil and gas development. Existing sagebrush habitat that is in poor health would not be restored or treated, which would in turn, not help to improve habitat for Colorado hookless cactus.

#### Proposed Action

Direct and Indirect Effects: The Proposed Action would not directly or indirectly effect threatened and endangered plant species that are present in the project area, because the project is designed to avoid any potential impacts due to trampling by crews on foot and/or driving and parking off existing roadways. Under the Proposed Action, vehicles would only park and travel on existing roads and areas where cactus are found would be avoided by 20 meters. Sparsely vegetated slopes would be avoided as well. The Proposed Action would be beneficial to threatened and endangered plant species if canopy openings and seeding help to replace non-native vegetation with native perennials.

Finding on the Public Land Health Standard 4 for threatened, endangered and sensitive species: Under this alternative, Public Land Health Standard 4 would be met if the treatment areas improve the health and vigor of native perennials and sagebrush communities, which would in turn provide better habitat for federally-listed species.

Cumulative Effects: The Proposed Action is not anticipated to contribute to the cumulative effects of grazing and oil and gas development in the area, because the proposed project is intended to improve and maintain vegetation communities and habitat in the area.

### **3.3.4 Vegetation (grasslands, forest management) (includes a finding on Standard 3)**

#### Current conditions:

The following chart shows the vegetation associations and potential predominant plant species found within the proposed project area.

Vegetation Associations	Predominate plant species
Alkaline Slopes	Potential native vegetation: needle and thread, Indian ricegrass, sand dropseed, bottlebrush squirreltail, galleta, green rabbitbrush, shadscale saltbush.
Badlands	Non-range site with very sparse vegetation.
Foothills Juniper	Consists of short statured Utah juniper woodland.
Loamy Saltdesert	Consists of galleta, shadscale saltbush, Gardner's saltbush, Indian ricegrass, bottlebrush squirreltail, fourwing saltbush, needle and thread.
Pinyon/Juniper/Unspecified	Pinyon and Utah juniper woodland.
Rolling Loam	Potential native vegetation: western wheatgrass, Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail, needle and thread, Sandberg bluegrass, prairie Junegrass. This plant community roller chopped and seeded to improve vegetation cover and composition.
Salt Flats	Potential native vegetation consists of; alkali sacaton, four-wing saltbush, greasewood, inland saltgrass and western wheatgrass.
Semidesert Clay Loam	Potential native vegetation: Wyoming big sagebrush, saline wildrye, western wheatgrass, Sandberg bluegrass, Indian ricegrass, shadscale saltbush.

Within the proposed project area is a mosaic of areas specifically designated for removal of pinyon and juniper trees. Vegetation in these designated areas is dominated by Wyoming big sagebrush with an understory of annual cheatgrass and native perennial grasses that include: Indian ricegrass, bottlebrush squirreltail, needle and thread and Sandberg bluegrass. Generally, cheatgrass is the predominant grass mixed with more widely scattered perennial grasses and in some areas, cover of cheatgrass is continuous through the sagebrush interspaces. Pinon –juniper trees are increasing and encroaching on these sites.

Land Health Assessment done in 2010 showed that portions of the project area are not meeting Land Health Standard 3 (Section 1.4). This standard is not being met due to lack of potential plant diversity from decrease or loss of native grass species, invasion of annual cheatgrass and the spread of pinyon-juniper from their historical wooded areas into sagebrush communities.

No Action:

Direct and Indirect Effects: Under the No Action Alternative, pinyon-juniper trees would likely continue to increase and spread into the sagebrush communities. Under the current conditions, pinyon-juniper trees are competing with the sagebrush plants and native grass species and may dominate in the future. If encroachment of pinyon-juniper continues into these sagebrush communities, the

decline of perennial grasses and increase of cheatgrass would likely continue resulting in further degradation of rangeland conditions and Land Health.

Cumulative Effects: If conditions continue as they are, the cumulative effect would be degradation of rangeland conditions related to Land Health. The project area would be vulnerable to excessive soil erosion and dominated by pinyon-juniper with understories of cheatgrass and bareground.

Proposed Action:

Direct and Indirect Effects: Removing the pinyon-juniper trees would eliminate their competition with sagebrush and native grasses which would increase the chances of healthier sagebrush communities. The native grasses would have a better chance to increase and compete with cheatgrass in the sagebrush understories and interspaces. Land Health would be expected to improve.

Cumulative Effects: Removing the pinyon-juniper would likely improve Land Health by improving vigor of sagebrush plants, increasing native grasses, and decreasing cheatgrass allowing for a healthy plant community. A healthier plant community would provide better habitat for wildlife and more consistent, reliable forage for livestock.

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

Current conditions:

Horsethief and Little Horsethief Creeks are contained within the Project area; however, they are ephemeral and consequently they do not support fish species. Other aquatic wildlife such as breeding amphibians and aquatic invertebrates are likely to use these ephemeral drainages on a seasonal basis.

The project area is characterized by pinyon-juniper and sagebrush habitat that is important to a wide variety of terrestrial wildlife species. The project area also contains important deer and elk winter range designations, including deer and elk severe winter range and winter concentration areas and mule deer critical winter range. The project area lies within the overall range for Rocky Mountain bighorn sheep, and provides lower elevation winter habitat for this species. Other wildlife species that are likely to be present include coyote, red fox, desert cottontail, badger, mountain lion, black bear, and a variety of small mammals and lizards.

Standard 3 of the BLM Standards for Public Land Health require the BLM to manage for healthy, productive plant and animal communities of native and other desirable species at viable population levels. Public land health standards have been evaluated in this area and have been determined to be meeting overall and biotic integrity land health standards throughout the majority of the project area. The areas proposed for treatments contain some patches of land that are meeting land health standards, but mostly lie within areas that are not meeting overall

public land health standards due to livestock overutilization and heavy grazing and invasions of cheatgrass.

#### No Action

Direct and Indirect Effects: Under the No Action alternative, sagebrush flats would not be treated to remove encroaching pinyon-juniper trees and improve the understory vegetation community. This alternative would not directly impact terrestrial or aquatic wildlife species. However, the No Action alternative would indirectly affect mule deer and potentially other wildlife species that rely on sagebrush habitats by allowing them to be converted to pinyon-juniper forested habitats over time. No seeding of native herbaceous plant species would take place and cheatgrass would continue to dominate the understory of many of the sagebrush flats in the project area.

Finding on the Public Land Health Standard 3 for plant and animal communities: Under this alternative, Public Land Health Standard 3 may not be met, because The areas where habitat would be improved would continue to not be meeting land health standards due to continued low diversity and vigor of perennial grasses and other herbaceous vegetation.

Cumulative Effects: The No Action alternative could contribute to the cumulative impacts of the past, present, and foreseeable future by contributing to continued habitat loss of important wintering habitat for mule deer and elk. Currently, habitat is being lost due to well pads, roads, and pipelines in the project area. Remaining habitat would continue to be lost over time as the quality and amount of sagebrush habitats is reduced and lost over time.

#### Proposed Action

Direct and Indirect Effects: The proposed action would not have any direct impacts on terrestrial or aquatic wildlife species. No indirect impacts would occur to aquatic wildlife species as the treatment areas are not within or near aquatic habitat. The Proposed Action would be beneficial to species that rely on sagebrush habitats and would help to maintain a mosaic pattern of habitats across the landscape that is beneficial to all wildlife species. The Proposed Action would lead to an increase in the herbaceous component of the ecosystem, which would improve foraging conditions for mule deer and elk. The project area is in severe and critical winter range for mule deer and elk and is an area where these species concentrate in larger numbers during the winter months. Disturbance due to human activity and noise in the area could negatively affect these species during the winter months; however, most of the treatment activity would take place during the fall and early spring and would be relatively low impact due to the project being completed on foot and by hand. Crews traveling to and from the project location on a daily basis would drive the speed limit to avoid hitting wildlife.

Finding on the Public Land Health Standard 3 for plant and animal communities: Under this alternative, Public Land Health Standard 3 would be met, because the

Proposed Action should improve sagebrush habitat and increase the diversity of herbaceous vegetation.

Cumulative Effects: The Proposed Action is not anticipated to contribute to the cumulative effects of grazing and oil and gas development in the area, because the proposed project is intended to improve and maintain wildlife habitat in the area.

### **3.4 HERITAGE RESOURCES AND HUMAN ENVIRONMENT**

#### **3.4.1 Cultural Resources**

A Class I records search of the proposed project’s Area of Potential Effect, as defined in the National Historic Preservation Act (NHPA), was conducted by The Bureau of Land Management Archaeologist in July through September 2011 (BLM CRIR 1011-16). Approximately 992 acres (50.9%) within the proposed area have had Class III cultural resource inventory. Seventy-seven (77) cultural resource surveys have been completed within the project area and 94 cultural resources (30 sites and 64 isolates) have been recorded. The majority of sites (27 or 90%) are prehistoric consisting of 20 Prehistoric Open Camps (74%), 6 Open Lithic Sites (22%), and one Open Architectural site (4%). The open architectural site consists of stone features, and is not a wooden architectural site. A majority of the isolated finds (61 out of 64) are prehistoric. Historic sites in the area consist of a historic wagon road, a historic camp and a historic trash scatter. 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.

As part of the analysis of this project BLM employees sampled both pinyon and juniper trees to try to determine if there was a correlation between tree diameter and tree age. The reason for the sampling was to determine the age of trees in the project area. Trees less than 100 years old are unlikely to have been used culturally by the Ute and other groups to support wooden structures (wickiups, tree platforms, brush fences) that may be affected by this type of project. Eighteen samples were taken from the various polygons and Table 1 illustrates the range of tree diameters and tree age.

**Table 1: Tree Description detailing type, height, diameter, age and location.**

<b>Tree Type (ID)</b>	<b>Tree Height</b>	<b>Tree Diameter</b>	<b>Tree Age</b>	<b>Tree Location</b>
Juniper (1)	Unknown	5.4 inches	67	Polygon 14
Juniper (2)	Unknown	4.5 inches	100	Polygon 3
Juniper (3)	Unknown	4.25 inches	60	Near polygon 17
Juniper (4)	11 feet	5 inches	67	Polygon 15
Juniper (5)	10 feet	4.75 inches	89	Polygon 15
Juniper (6)	14 feet	5 inches	113	Polygon 14
Juniper (7)	9 feet	4 inches	67	Polygon 14
Juniper (8)	14 feet	5.25 inches	75	Polygon 14

Juniper (9)	7 feet	4 inches	39	Polygon 14
Juniper (10a)	10 feet	5 inches	69	Polygon 14
Juniper (10b)	10 feet	4 inches	52	Polygon 14
Juniper (11)	13 feet	5.5 inches	101	Polygon 14
Pinyon (1)	Unknown	7.3 inches	142	Polygon 3
Pinyon (2)	Unknown	7.25 inches	151	Polygon 3
Pinyon (3)	Unknown	5.75 inches	37	Polygon 3
Pinyon (4)	Unknown	6.25 inches	42	Polygon 3
Pinyon (5)	Unknown	7.1 inches	51	Polygon 3
Pinyon (6)	Unknown	5 inches	66	Polygon 3

The samples indicate that trees less than 6 inches in diameter in both juniper and pinyon pines in the project area are likely to be less than 130 years old. This date is significant in that the Utes were removed from Colorado in 1881 and it is unlikely that trees 6 inches in diameter and smaller would have been used as wooden structure supports. Trees above 6 inches in diameter do have the possibility of being over 130 and should only be removed in areas where previous cultural resource inventory has occurred.

No Action

Direct and Indirect Effects: Under the no action alternative no cultural resources would be impacted.

Cumulative Effects: *None.*

Proposed Action

Direct and Indirect Effects:

Due to the non-ground disturbing nature of this type of vegetation project (lop and scatter), the only types of cultural resources that could be at risk from the removal of pinyon and juniper trees would be architectural sites (most commonly wickiups, lean-tos, tree platforms and other prehistoric and protohistoric sites that depend on living trees for support). No sites of these natures were located within the 50% of the project area that has been previously surveyed. Though the cultural resources that may be present in the other 50% of the survey are unknown, the BLM believes that the field crews responsible for the field work can be taught to identify wooden architectural cultural properties and features in the field and will avoid areas and trees where these resources might be located. Open camps and lithic scatters are unlikely to be impacted by the proposed action.

Cumulative Effects:

Although there would be no direct impacts from the proposed action, indirect impacts from increased access and personnel could result in a range of impacts to unknown Native American resources from illegal collection, vandalism, or unauthorized excavation.

Protective/Mitigation Measures: Historic properties in previously surveyed areas or those discovered during the proposed action that are recommended as eligible or potentially eligible for the National Register of Historic Places will be avoided by incorporating the following mitigation in the proposed action:

- 1) Field staff must be trained on the identification and recognition of cultural wooden architectural features by a BLM archaeologist and understand how to report them if they are found. Training must occur at least once a season for the length of the project.
- 2) In portions of the project area where cultural resource Class III surveys have occurred, buffers of 100 meters will surround the significant cultural resources (eligible sites or potentially eligible (needs data) sites) and no tree cutting will occur in those areas. Maps will be obtained at the beginning of each field season to incorporate any new survey information added within the project area during the span of the project (10 years).
- 3) In areas where previous Class III cultural resource surveys has not occurred trees less than 130 years (6 inches in diameter) may be cut and left where they fall if they are not supporting a structure. This activity will result in negligible disturbance to the surface and subsurface.
- 4) All persons in the area who are associated with this project shall be informed that any person who, without a permit, injures, destroys, excavates, appropriates or removes any historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural item, or archaeological resources on public lands is subject to arrest and penalty of law (16 USC 433, 16 USC 470, 18 USC 641, 18 USC 1170, and 18 USC 1361). Strict adherence to the confidentiality of information concerning the nature and location of archeological resources would be required of the proponent and all of their subcontractors (Archaeological Resource Protection Act, 16 U.S.C. 470hh).
- 5) Inadvertent Discovery: The National Historic Preservation Act (NHPA) [16 USC 470s., 36 CFR 800.13], 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 determine the actions that will ensure in place preservation is not necessary).
- 6) The Native American Graves Protection and Repatriation Act (NAGPRA) [25 USC 3001 et seq., 43 CFR 10.4] requires that if inadvertent discovery of Native American Human Remains or Objects of Cultural Patrimony 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)).

- 7) The BLM will relocate activities to avoid the expense of mitigation and delays associated with new discovery described above. This may change the final acres of the implementation and require bilateral agreement of the implementation contract. The BLM authorized officer will provide technical and procedural guidelines for redesign of the project area. Upon verification from the BLM authorized officer that the required mitigation has been completed, the operator will be allowed to resume implementation.

### **3.4.2 Tribal and Native American Religious Concerns**

#### Current Conditions:

American Indian religious concerns are legislatively considered under several acts and Executive Orders, namely the American Indian Religious Freedom Act of 1978 (PL 95-341), the Native American Graves Environmental Assessment Protection and Repatriation Act of 1990 (PL 101-601), and Executive Order 13007 (1996; Indian Sacred Sites). In summary, these require, in concert with other provisions such as those found in the NHPA and ARPA, that the federal government carefully and proactively take into consideration traditional and religious Native American culture and life and ensure, to the degree possible, that access to sacred sites, the treatment of human remains, the possession of sacred items, the conduct of traditional religious practices, and the preservation of important cultural properties are considered and not unduly infringed upon. In some cases, these concerns are directly related to “historic properties” and “archaeological resources”. In some cases elements of the landscape without archaeological or other human material remains may be involved. Identification of these concerns is normally completed during the land use planning efforts, reference to existing studies, or via direct consultation. 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.

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. No additional Native American Indian consultation was conducted for the proposed project.

#### No Action

Direct and Indirect Effects: None.

Cumulative Effects: None.

#### Proposed Action

Direct and Indirect Effects: None

Cumulative Effects: None.

### **3.4.5 Visual Resources**

#### Current Conditions:

The project area occupies the slopes surrounding the western flank of Battlement Mesa including Horsethief Mountain and Castle Peak, which are the dominant topographic features in the area. The BLM conducted a Visual Resource Inventory (VRI) in 2009, and classified the project area as VRI Class II. This classification will be considered when determining Visual Resource Management (VRM) classifications in the on-going revision of the RMP. Under the current RMP, the area is within an unspecified visual class area. It has been the general practice of the GJFO to manage unclassified areas as a VRM Class III (BLM 1987). VRM Class III is defined as 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). The natural landscape in the area has been somewhat modified in the past by ranching, recreation, and natural gas development. In addition to the Debeque Cutoff Road and Sunnyside Road, there are multiple secondary roads crossing BLM and private lands in the project area.

#### No Action

Direct and Indirect Effects: There would be no direct or indirect effects to visual resources under the No Action Alternative.

Cumulative Effects: Under the No Action Alternative the visual landscape could change gradually as pinyon-juniper encroachment continues, or it could change suddenly if fuel loading leads to large scale fires in the area. Additionally, the visual landscape would likely change due to on-going natural gas gathering activities and maintenance/improvement of roads. These activities would have a relatively long-term effect on the visual quality of the viewshed.

#### Proposed Action

Direct and Indirect Effects: The casual observer would usually be travelers by vehicle or all-terrain-vehicle along the Sunnyside Road or Debeque Cutoff Road. The observer would see vehicles and work crews during cutting and seeding operations. As specified in the project design criteria, the proposed action would mimic natural patterns of disturbance and avoid clearing vegetation in linear corridors in order to maintain a natural appearing landscape. By cutting and dispersing trees and branches so that they are below the level of the remaining sagebrush, visual impacts from the cut materials should be minimal. The project area has a moderate level of existing contrast consisting of roads, nearby gas development facilities and fences. Because the visual modifications would be

largely unnoticeable from observation points along the Sunnyside Road and Debeque Cutoff Road, the Proposed Action would meet the objective of the VRM III classification.

Cumulative Effects: The phased approach of implementing the proposed action over a ten year period would provide opportunities to monitor and assess the visual effects of the project and potentially adjust techniques to lessen visual impacts. It would also provide a gradual succession of changes to the visual landscape within the project area. The visual landscape would also continue to change due to on-going natural gas gathering activities and maintenance/improvement of roads. These activities would have a relatively long-term effect on the visual quality of the viewshed.

### **3.4.8 Environmental Justice**

#### Current Conditions:

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 2010, the only minority population of note in the impact area is the Hispanic community of Mesa County (U.S. Census Bureau 2010). Persons describing themselves as Hispanic or Latino represented 11.9 percent of the population, slightly less than the Colorado state figure for the same group at 19.7 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 8.0 percent of the Mesa County population as living in families with incomes below the poverty line, compared to 8.2 percent for the entire state. Both minority and low income populations are dispersed throughout the county.

#### No Action

Direct and Indirect Effects: Under the No Action alternative, the proposed action would not occur and would not have any disproportionate impacts to low-income and minority populations in the area.

Cumulative Effects: None

#### Proposed Action

Direct and Indirect Effects: There would be no disproportionately high and/or adverse effects to the human health or environment of minority and low-income populations.

Cumulative Effects: None

### **3.4.9 Transportation/Access**

#### Current Conditions:

Access to the project area is via Mesa County road V.0, commonly referred to as the Sunnyside Road, which serves as an arterial route along the southwest flank of Battlement Mesa between Interstate 70 near Debeque and Highway 330 near Plateau City. Along with numerous secondary routes, Sunnyside Road provides access to public lands managed by the BLM, Grand Mesa National Forest, White River National Forest, and privately-owned lands. The routes in the project area are currently used primarily for access to energy exploration and production facilities, grazing allotments, recreation opportunities (primarily hunting), and private property parcels. The travel management prescription for this area in the current resource management plan includes a seasonal closure to motorized vehicles between December 1 and May 1. Between May 2 and November 30 motorized vehicle use is limited to existing roads and trails. However, no gates are in place to reinforce the seasonal closure. The BLM does not collect any traffic counter data to track current usage of any of the routes in this area.

#### No Action

Direct and Indirect Effects: There would be no direct or indirect effects under the No Action Alternative. Roads would continue to be accessed or improved by other activities in the area.

Cumulative Effects: Access and Transportation from oil and gas operations and other activities in the area would continue.

#### Proposed Action:

Direct and Indirect Effects: Under the proposed action, work crews would use existing routes to access project sites, adding a small amount of additional vehicle traffic to the area's roads. Vehicles would be parked such that they would not impede other traffic in the area. Effects to transportation and access from the proposed action would be minimal.

Cumulative Effects: Access and transportation routes would likely increase as gas and oil leases in the area are developed, and as grazing and recreation use continue to occur in the area. These increases in development and use could reduce the area available for habitat enhancement.

### **3.4.10 Wastes, Hazardous or Solid**

#### Current Conditions:

Hazardous and solid wastes are not a part of the natural environment.

#### No Action

Direct and Indirect Effects: No impacts

Cumulative Effects: No impacts

Proposed Action

Direct and Indirect Effects: Hazardous and solid wastes could be introduced into the environment in the form of spilled fuel and lubricant. Volumes likely to be used for chainsaw fueling would be limited and spills would be considered de minimus quantities. Natural attenuation (volatilization/bioremediation) would result in no significant impact.

Cumulative Effects: None expected. Spills of fuel and oil above *de minimus* quantities would not be expected or would be expected to be rare.

Protective/Mitigation Measures: None

### **3.5 LAND RESOURCES**

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#### **3.5.1 Recreation**

Current Conditions:

The proposed action area lies within the Grand Junction Extensive Recreation Management Area (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 project area, on public lands, is incidental hunting use. There is also occasional recreational OHV use on the Sunnyside Road and the spur routes off of the Sunnyside Road. Recreation use in the area can be characterized as dispersed recreation with a relatively low level of intensity. The exception to this general description is big-game hunting in the fall. The project area is located in CDOW game management units (GMU) 42 and 421. These GMUs have historically been popular with big-game hunters and can be expected to remain so into the future. The Grand Junction Field Office manages one Special Recreation Permit (SRP) for big game hunting in the project area, issued to Roosters Guide and Outfitters. Additionally, five mountain lion hunting outfitters are authorized to operate in the project area (Alameno Outfitters, Backcountry Outfitters, Biggerstaff Guides and Outfitters, Cat Track Outfitters, and Mark Davies Outfitters.)

No Action

Direct and Indirect Effects: There would be no direct or indirect effects under the No Action Alternative.

Cumulative Effects: Under the No Action Alternative recreation use in the area would continue to occur, with any changes based on general recreation and demographic trends in the region.

Proposed Action

Direct and Indirect Effects: The proposed action would result in increased noise, dust, and human activity during the cutting and seeding phase of the project. This phase would likely displace some game species in localized areas within close proximity to these activities, and both hunters and game would be displaced to other locations outside of the project area. The anticipated improvement in big game habitat would likely result in improved hunting opportunities following the initial project work.

Cumulative Effects: The proposed action would incrementally improve big game habitat, potentially increasing hunting opportunities and success rates. Other development activities in the area over time could decrease hunter success and counteract the habitat improvement effects. Other effects on recreation would be related to general recreation and demographic trends in the region.

**3.5.5 Range Management**

Current Conditions:

Eight grazing allotments are currently located within the proposed project area. Of these eight allotments, the Baldrige Mesa, Brown Place and Heely allotments are unallotted and proposed for livestock grazing closure. The remaining five allotments have active livestock use with their schedules and authorized AUMs shown in the table below.

Allotment	Livestock Number	Livestock Kind	Grazing Period		%PL	Type Use	AUMs
			ON	OFF			
Sunnyside Common	27	Cattle	05/01	05/31	100	Active	28
	29	Cattle	05/10	06/14	100	Active	34
	48	Cattle	12/22	01/27	100	Active	58
	72	Cattle	04/16	05/31	100	Active	109
	8	Cattle	12/22	01/27	100	Active	10
Big Park	494	Cattle	04/15	06/10	82	Active	759
Halfway House	53	Cattle	05/01	05/31	100	Active	54
Jerry Gulch	100	Cattle	05/01	06/30	75	Active	150
Lyons/Anderson	80	Cattle	05/01	06/14	91	Active	108
	80	Cattle	10/16	11/30	91	Active	110

Due to 2008 Ecological Site Inventory (ESI) monitoring showing less AUMs available on the Sunnyside Common Allotment than authorized and Land Health concerns, AUMs were reduced and seasons of use adjusted for rangeland conditions to improve towards meeting Land Health Standards across the entire allotment. 2010 Land Health monitoring still showed portions of the allotment

not meeting Land Health Standard 3 in areas proposed for pinyon-juniper removal.

In the Halfway House and Lyons/Anderson allotments, 2010 Land Health monitoring showed areas within these allotments not meeting Standard 3 and being encroached by pinyon-juniper. These areas are within the specific areas proposed for pinyon-juniper removal.

The Big Park Allotment is scheduled for grazing permit renewal in 2012. Monitoring has shown problems with Land Health Standard 3 and less available AUMs than currently authorized on the allotment. Changes in season of use and reduced AUMs are currently being coordinated with the permittee and are anticipated for the 2012 permit renewal.

#### No Action

Direct and Indirect Effects: Under the No Action Alternative, pinyon-juniper trees would likely continue to increase and spread into the sagebrush communities. Under the current conditions, pinyon-juniper trees are competing with the sagebrush plants and native grass species and may dominate in the future. If encroachment of pinyon-juniper continues into these sagebrush communities, the decline of perennial grasses and increase of cheatgrass would likely continue resulting in further degradation of rangeland conditions and Land Health. This would result in a decrease of sustainable forage available for livestock resulting in loss of AUMs on the grazing allotments.

Cumulative Effects: If conditions continue as they are, the cumulative effect would be degradation of rangeland conditions related to Land Health. The project area would be vulnerable to excessive soil erosion and dominated by pinyon-juniper with understories of cheatgrass and bareground resulting in decrease of available AUMs for livestock.

#### Proposed Action

Direct and Indirect Effects: Removing the pinyon-juniper trees would eliminate their competition with sagebrush and native grasses allowing the native grasses to increase and compete with cheatgrass in the sagebrush understories and interspaces. Land Health would be expected to improve increasing the available forage of perennial grasses for livestock AUMS which would benefit range management.

Cumulative Effects: Removing the pinyon-juniper would likely improve Land Health by improving vigor of sagebrush plants, increasing native grasses, and decreasing cheatgrass allowing for a healthy plant community. A healthier plant community would provide better habitat for wildlife and more consistent, reliable forage for livestock.

### **3.5.6 Wildland Fire and Fuels Management**

### Current Conditions:

The current landscape and vegetation in this area is prone to high frequency of wildland fires. This area is identified in the Grand Junction Fire Management Plan as a FMU B-02 Plateau Valley. The current management direction on wildfires within B FMUs is for full suppression on any new wildfire no matter what the cause.

The majority of this project area is sage shrublands. These vegetative communities are considered to be in fire regime condition class (CC) 2 moving toward a condition class 3 mainly due to PJ encroachment. Areas infested with cheat grass that increase wildfire frequency would be considered CC 3.

### No Action

Direct and Indirect Effects: Wildfires will continue to ignite and burn within the project area under all alternatives. The only difference will be in the intensity and size of these fires based that is dependent on fuel loading. Under the no action alternative there would be no reduction in fuels loads thus overtime the area would be more prone to large intense wildfires.

Cumulative Effects: As above no action alternative would have no benefit to the BLM fuels and fire program.

### Proposed Action

Direct and Indirect Effects: The proposed action would benefit the hazardous fuels program by reducing fuels loading overtime and limiting cheatgrass infestation. Cutting pinyon-juniper would reduce fire behavior during future wildland fires within the project area increasing the effectiveness of suppression operations. Seeding areas that are infested with cheatgrass would reduce the cover of cheatgrass leading to reduce fire behavior.

The proposed action also has some areas identified for treatment in the wildland urban interface (WUI). Treatments in the proposed action should reduce the potential for wildfire burning from BLM administered lands onto adjacent private lands in this WUI.

Cumulative Effects: As treatments occur across the landscape there would be a benefit to reducing the potential of large intense wildfires. The restoration of these sage shrublands would also improve the fire regime condition class of this area.

## CHAPTER 4 - CONSULTATION AND COORDINATION

### 4.1 LIST OF PREPARERS AND PARTICIPANTS

#### INTERDISCIPLINARY REVIEW

NAME	TITLE	AREA OF RESPONSIBILITY
Christina Stark	Natural Resource Specialist	Realty Authorizations, Visual, Riparian
Julia Christiansen	Natural Resource Specialist	Oil and Gas
Alissa Leavitt-Reynolds	Archaeologist	Cultural Resources, Native American Religious Concerns
Chris Pipkin	Outdoor Recreation Planner	Access, Transportation, Recreation, VRM, Wilderness, ACECs
Matt McGrath	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/Solid Wastes
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
Kristen Meyer	Wildlife Biologist/Ecologist	Migratory Bird Treaty Act, T&E Plant and Animal Species, Terrestrial & Aquatic Wildlife
Scott Clarke	Range Management Specialist	Vegetation, Range
Collin Ewing	Environmental Coordinator	Environmental Justice, Prime & Unique Farmlands, Environmental Coordinator
Nate Dieterich	Hydrologist	Air Quality, Water Quality, Hydrology, Water Rights, Soils
Jacob Martin	Range Management Specialist	Range, Forestry
Mark Taber	Range Management Specialist	Invasive, Non-Native Species (Weeds)
Lathan Johnson	Fire Ecologist Natural Resource Specialist	Fire Ecology, Fuels Management

## **4.2 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED**

Michael Blanck, District Wildlife Manager, Colorado Parks and Wildlife, Collbran, Colorado  
Gina Glenne, U.S. Fish and Wildlife Service, Grand Junction, Colorado

## CHAPTER 5 - REFERENCES

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# APPENDIX 1

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
GRAND JUNCTION FIELD OFFICE

## Sunnyside Wildlife Habitat Treatments DOI-BLM-CO-130-2011-0025-EA

### INTERDISCIPLINARY TEAM ANALYSIS REVIEW RECORD AND CHECKLIST

**Project Title:** Sunnyside Wildlife Habitat Treatments  
**Project Leader:** Kristen Meyer  
**Date Submitted for IDT review/input:** 01/10/11

**Due Date for IDT review/input:** 04/30/11

**Consultation/Permit Requirements**

Consultation	Date Initiated	Date Completed	Responsible Specialist/ Contractor	Comments
Cultural/Archeological Clearance/SHPO	10/3/2011	10/25/2011	ALR	Finding of No Adverse Effect
Native American	N/A	N/A	ALR	N/A
T&E Species/FWS/CDOW			K. Meyer	Not required
Permits Needed (i.e. Air or Water)	NP		N. Dieterich	No permit needed

(NP) = Not Present

(NI) = Resource/Use Present but Not Impacted

(PI) = Potentially Impacted and Brought Forward for Analysis.

NP NI PI	Discipline/Name	Date Review Comp.	Initials	Review Comments (required for elements that are not carried forward for analysis.)
<b>I. PHYSICAL RESOURCES</b>				
PI	Air Quality and Climate	4/1/11	ND	
NI	Geologic Resources	4/25/11	DSG	
NI	Mineral Resources	4/25/11	DSG	
PI	Soils	4/1/11	ND	
PI	Water (hydrology\water rights\floodplains)	4/1/11	ND	
<b>II. BIOLOGICAL RESOURCES</b>				
NI	Invasive, Non-native Species	4/11/11	MT	
PI	Sensitive Species (Plant\Animal\Migratory Birds)	3/21/11	KEM	

PI	Threatened or Endangered Species	3/21/11	KEM	
PI	Vegetation	5/18/11	SC	
NP	Wetlands & Riparian Zones	3/22/11	CARS	There are no riparian or wetland zones present in the project area.
PI	Wildlife (includes fish, aquatic and terrestrial)	3/21/11	KEM	
<b>III. HERITAGE RESOURCES and HUMAN ENVIRONMENT</b>				
	Cultural Resources	9/29/11	ALR	
	Paleontological Resources	1/25/11	DSG	
	Tribal and Native American Religious Concerns	9/29/11	ALR	No concerns.
PI	Visual Resources	4/28/11	CPP	
NI	Social	5/4/11	KEM	
NI	Economic	5/4/11	KEM	
NP	Environmental Justice	4/04/11	KEM	According to the most recent Census Bureau statistics (2000), there are no minority or low income communities within the /// Planning Area.
PI	Noise	5/4/11	KEM	
PI	Transportation/Access	4/28/11	CPP	
NP	Wastes, Hazardous or Solid	5/4/11	AK	There are no quantities of wastes, hazardous or solid, located on BLM-administered lands in the proposed project area, and there would be no wastes generated as a result of the Proposed Action or No Action alternative.
<b>IV. LAND RESOURCES</b>				
NP	Farmlands, Prime and Unique	5/4/11	KEM	There are no farmlands, prime or unique, in the proximity of the proposed project area.
PI	Range Management	5/18/11	SC	
PI	Recreation	4/28/11	CPP	
NP	Special Designations (ACECs and SMAs etc)	4/04/11	KEM	There are no Areas of Critical Environmental Concern in the proximity of the proposed project area.
	Lands/ Realty Authorizations			
NP	Wild and Scenic Rivers	4/28/11	CPP	There are no Wild and Scenic Rivers in the /// Planning Area. An Eligibility and Suitability study will be conducted during the upcoming RMP Revision (///date).
NP	Wilderness and Wilderness Characteristics	4/28/11	CPP	There is no designated Wilderness or Wilderness Study Areas in the proximity of the proposed project area.
<b>V. PUBLIC LAND HEALTH STANDARDS</b>				
	Soils (Finding on Standard 1)	4/1/11	ND	Finding: Not Meeting per 2010 LHA
	Riparian Systems (Finding on Standard 2)	3/18/11	CARS	Finding: There are no riparian or wetland zones present in the project area, therefore it is

			not possible to reach a finding.
Plant Communities (Finding on Standard 3)	5/24/11	KEM	Finding: Currently not meeting due to non-native herbaceous understory and PJ encroachment. The proposed action should help improve Standard 3 conditions.
Wildlife, Aquatic (Finding on Standard 3)	5/16/11	KEM	Finding: Currently meeting. The proposed action should not alter the LHA for aquatic wildlife species in the project area.
Wildlife, Terrestrial (Finding on Standard 3)	5/16/11	KEM	Finding: Currently not meeting. The proposed action should help improve the LHA rating for terrestrial wildlife and habitat.
Threatened or Endangered Species (Finding on Standard 4)	5/16/11	KEM	Finding: Currently not meeting. The project should improve habitat for T&E plant species in the project area.
Water Quality Surface\Ground (Finding on Standard 5)	4/1/11	ND	Finding: Per CDPHE-WQCC all affected stream segments are meeting water quality standards.
<b>OTHER ELEMENTS</b>			

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
GRAND JUNCTION FIELD OFFICE  
**FINDING OF NO SIGNIFICANT IMPACT**

**Sunnyside Wildlife Habitat Treatments  
DOI-BLM-CO-130 2011-0025-EA**

Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that the Proposed Action will not have a significant effect on the human environment. An environmental impact statement is therefore not required.

**BACKGROUND**

This Environmental Assessment was prepared to analyze the impacts associated with removing pinyon-juniper from sagebrush flats using lop and scatter methods with handcrews on foot for wildlife habitat treatments throughout the area along the Sunnyside Road.

The Bureau of Land Management prepared an Environmental Assessment which analyzed the effects of the removal of pinyon-juniper encroachment, using hand thinning and scattering of smaller pieces, with chainsaws on foot, within up to 1,700-acres along the Sunnyside (V) Road in Mesa County, South of DeBeque, Colorado. The EA considered both the Proposed Action and No Action alternatives.

**Intensity**

I have considered the potential intensity/severity of the impacts anticipated from the Sunnyside Wildlife Habitat Treatments Project decision relative to each of the ten areas suggested for consideration by the CEQ. With regard to each:

- 1. Impacts that may be both beneficial and adverse.** This project may have minor short term impacts to soils, vegetation, and wildlife; however these impacts are not significant and could be beneficial over the long-term. Impacts to cultural resources could occur if the project design criteria are not followed; however, the project has been designed to limit ground disturbance and is selective in nature and should work to protect cultural resources.
- 2. The degree to which the proposed action affects public health and safety.** The proposed action is not expected to impact public health and safety.
- 3. Unique characteristics of the geographic area such as proximity of historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

There are no riparian areas within the proposed treatments in the project area; thus, impacts to riparian vegetation would not occur. There are no parklands, prime farmlands, wetlands, or wild and scenic rivers within the project area and as a result, there would be no impacts to those

resources. The project has been modified to avoid impacts to cultural and historic resources. There are no municipal water supplies in the project area.

**4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.***

Effects to the quality of the human environment are not expected to occur. The impacts of these types of vegetation treatments are generally well known and documented with positive results. Therefore the environmental effects are not likely to be controversial.

**5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.***

Vegetation treatments have a long history in the region and pose no unique or unknown risks.

**6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.***

This decision is like one of many that have previously been made and will continue to be made by BLM responsible officials regarding vegetation treatments on public lands. The decision is within the scope of the Resource Management Plan and is not expected to establish a precedent for future actions. The decision does not represent a decision in principle about a future consideration.

**7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.***

There are no significant cumulative effects on the environment, either when combined with the effects created by past and concurrent projects, or when combined with the effects from natural changes taking place in the environment or from reasonably foreseeable future projects.

**8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.*** There would be no adverse impacts to the above resources. The project has been modified to avoid impacts to cultural and historic resources.

**9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*** The project has been designed to avoid impacts to threatened and endangered species. No impacts are expected to endangered or threatened species or their designated critical habitats.

**10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*** This decision complies with other Federal, State, or local laws and requirements imposed for the protection of the environment.

**FINDING OF NO SIGNIFICANT IMPACT**

On the basis of the information contained in the EA, and all other information available to me, it is my determination that: 1) the implementation of the Proposed Action or alternatives will not have significant environmental impacts beyond those already addressed in the "Record of Decision and Resource Management Plan," January 1987 (2) the Proposed Action is in

conformance with the Resource Management Plan; and (3) the Proposed Action does not constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

This finding is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR '1508.27), both with regard to the context and to the intensity of the impacts described in the EA.



Catherine Robertson  
Grand Junction Field Office

10/31/11  
Date

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
GRAND JUNCTION FIELD OFFICE

**DECISION RECORD**  
Sunnyside Wildlife Habitat Treatments  
**DOI-BLM-CO-130-2011-0025-EA**

DECISION: It is my decision to authorize the Proposed Action as described in the the Proposed Action of the attached EA. Up to 2,000 acres would be treated to remove pinyon and juniper trees that are encroaching into areas dominated by sagebrush over the course of 10 years. The methods used will be low-impact and will be conducted entirely on foot by fire crews using chainsaws to remove trees in open sagebrush parks. All of the work would be conducted on foot, using chainsaws to remove pinyon and juniper trees in order to minimize impacts to sensitive plants and cultural resources and to limit the spread of invasive plant species.

The White River and Grand Mesa National Forests and Colorado Parks and Wildlife were notified of the project by email and in person. The BLM collaborated with Colorado Parks and Wildlife in planning priority treatment areas for the Proposed Action. The BLM also discussed the added project design features of the Proposed Action targeted at avoiding impacts to federally-listed species with Gina Glenne of the U.S. Fish and Wildlife Service, who agreed that the added protection measures would be adequate to protect federally-listed species. No other public or agency comments were received.

RATIONALE: The condition of sagebrush habitat conditions along the Sunnyside (V) Road has been identified to have declining land health standards due to pinyon-juniper encroachment and non-native herbaceous understory. This project would help to improve land health standards and overall winter habitat for mule deer and other sagebrush obligate species.

MITIGATION MEASURES\MONITORING:

- 1) Field staff must be trained on the identification and recognition of cultural wooden architectural features by a BLM archaeologist and understand how to report them if they are found. Training must occur at least once a season for the length of the project.
- 2) In portions of the project area where cultural resource Class III surveys have occurred, buffers of 100 meters will surround the significant cultural resources (eligible sites or potentially eligible (needs data) sites) and no tree cutting will occur in those areas. Maps will be obtained at the beginning of each field season to incorporate any new survey information added within the project area during the span of the project (10 years).
- 3) In areas where previous Class III cultural resource surveys has not occurred trees less than 130 years (6 inches in diameter) may be cut and left where they fall if

they are not supporting a structure. This activity will result in negligible disturbance to the surface and subsurface.

- 4) All persons in the area who are associated with this project shall be informed that any person who, without a permit, injures, destroys, excavates, appropriates or removes any historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural item, or archaeological resources on public lands is subject to arrest and penalty of law (16 USC 433, 16 USC 470, 18 USC 641, 18 USC 1170, and 18 USC 1361). Strict adherence to the confidentiality of information concerning the nature and location of archeological resources would be required of the proponent and all of their subcontractors (Archaeological Resource Protection Act, 16 U.S.C. 470hh).
- 5) Inadvertent Discovery: The National Historic Preservation Act (NHPA) [16 USC 470s., 36 CFR 800.13], 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 determine the actions that will ensure in place preservation is not necessary).
- 6) The Native American Graves Protection and Repatriation Act (NAGPRA) [25 USC 3001 et seq., 43 CFR 10.4] requires that if inadvertent discovery of Native American Human Remains or Objects of Cultural Patrimony 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)).
- 7) The BLM will relocate activities to avoid the expense of mitigation and delays associated with new discovery described above. This may change the final acres of the implementation and require bilateral agreement of the implementation contract. The BLM authorized officer will provide technical and procedural guidelines for redesign of the project area. Upon verification from the BLM authorized officer that the required mitigation has been completed, the operator will be allowed to resume implementation.

PROTEST/APPEALS: This decision shall take effect immediately upon the date it is signed by the Authorized Officer, and shall remain in effect while any appeal is pending unless the Interior Board of Land Appeals issues a stay (43 CFR 2801.10(b)). Any appeal of this decision must follow the procedures set forth in 43 CFR Part 4. Within 30 days of the decision, a notice of appeal must be filed in the office of the Authorized Officer at Grand Junction Field Office, 2815 H Road, grand Junction, Colorado, 81506. If a statement of reasons for the appeal is not included with the notice, it must be filed with the Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with the Authorized Officer.

NAME OF PREPARERS: Kristen Meyer/Lathan Johnson

NAME OF ENVIRONMENTAL COORDINATOR: Collin Ewing

DATE: 10/28/11

SIGNATURE OF AUTHORIZED OFFICIAL:

  
Catherine Robertson  
Grand Junction Office Field Manager

DATE SIGNED: 10/31/11

ATTACHMENTS:

- 1) Project Map

# Proposed Habitat Treatment Locations (Handthinning - lop & scatter)

