United States Department of the Interior

BUREAU OF LAND MANAGEMENT
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ENVIRONMENTAL ASSESSMENT

1. Introduction

NUMBER: **DOI-BLM-CO-040-2012-0092 EA**

CASEFILE NUMBER:

PROJECT NAME: Panorama Subdivision Fuels Treatment

LOCATION: Garfield County, Colorado

LEGAL DESCRIPTIONS: T7S, R87W, Sec. 7, 18

APPLICANT: BLM Colorado River Valley Field Office

BACKGROUND:
The proposed project is located within an area identified as the wildland urban interface (WUI). The Colorado River Valley Field Office Fire Management Plan identifies the specific fire management zone as B-140-03 – Roaring Fork Valley-Carbondale North, which emphasizes: 1) vegetation management to reduce hazardous fuel loading and the risk of wildland fire escaping public lands, 2) Maintain or restore shrublands by reducing the encroachment of pinyon/juniper woodlands on shrub and sagebrush communities, 3) Maintain or create diverse seral stages and improve herbaceous understory in sagebrush and mixed mountain shrublands/oakbrush vegetation types. The priority ranking for emphasis on fuels treatments is listed as High. The plan also places a priority ranking for community assistance and protection as "High."

Vegetation within the project area consists of sagebrush shrublands that are being invaded encroached on by pinyon/juniper and oakbrush. The expansion of woody species and lack of disturbance has resulted in higher fuel loading. This will result in more intense and severe fires when they occur. In much of the identified area pinyon-juniper woodlands and oakbrush have expanded and formed closed canopy stands and changed the character of the historical landscape both in vegetation type and fire frequency, and fire severity.

Fuel loading in the area is classified as moderate to high. The moderate areas are early and mid seral sage brush rangelands. The areas of high fuel loading are areas where pinyon/juniper has expanded and in some places formed closed canopy stands eliminating grass forb communities.

There are pockets of high fuel loading that are dense stands of oakbrush. In these stands the vegetation is considered decadent in age. Areas of pinyon/juniper and oakbrush with high fuel loading pose elevated risk of fire behavior both in rate of spread and intensity.

In 2002, the Panorama Fire started just east of the project area. The fire burned in a combination of fuels including oakbrush and pinyon/juniper. This fire exhibited rapid rates of spread and large flame lengths that quickly grew beyond the capabilities of the local initial attack resources. The Panorama fire burned 1,500 acres and burned several structures.

PURPOSE AND NEED FOR ACTION:
The purpose of the project is to conduct vegetation treatments along the public/private property boundary that will focus on reducing hazardous fuels adjacent to private lands. The need is to reduce the risk of catastrophic wildfire's that 1) enter private property from BLM land, 2) provide for firefighter and public safety.

Decision to be made:
Approve or disapprove vegetation treatments that address high-risk wildfire areas in Garfield County.

SCOPING AND PUBLIC INVOLVEMENT AND ISSUES:
This action was scoped internally with the NEPA Interdisciplinary Team. Issues raised during the internal scoping are itemized in table 3-1 and analyzed in Section 3. Affected Environment and Environmental Consequences. Public meeting was held at the city of El Jebel Community Center in the Pinon Room 0020 Eagle County Rd. at 6:00P.M. on October 25. The BLM also had a Meeting with the Carbondale Fire Department on Oct. 23 at 2:00 P.M.. In addition the BLM a second public meeting at the City of El Jebel Community Center in the Mt. Sopris Room Eagle 0020 County Rd. on Nov. 16 at 6:00P.M.

2. Proposed Action and Alternatives

DESCRIPTION OF PROPOSED ACTION
This Bureau of Land Management (BLM) Colorado River Valley Field Office (CRVFO) project is a hazardous fuels treatment on BLM that will reduce the threat of fire to adjoining private property and infrastructure improvements in the project area. Treatment methods would include use of mechanical equipment (hydro-axe, roller chopper and any other mastication machinery), hand cutting, herbicide application to noxious weeds, piling, and burning.

The proposed action is to mow, grind, or remove oakbrush and pinyon/juniper where terrain allows and in steep slopes and rocky terrain to cut and pile the pinyon/juniper to reduce canopy closure. This would increase spacing between vegetation to reduce potential fire behavior. Residual woody debris would be mowed to a height of 1 foot or less to minimize post treatment fuel loads.

Goals of the project would be to treat up to 80% of the oakbrush and 100% of the pinyon/juniper trees in areas to be treated with mechanical treatment methods. In areas where machinery is not

viable, remove up to 60% of the pinyon/juniper by hand cutting and piling. The piles created from hand thinning would then be burned in the winter when there is adequate snow on the ground. Performing this action would reduce canopy closure and break up the horizontal and vertical continuity of available fuels. Sage brush will be mowed where it is deemed to be decadent and treated in a mosaic fashion where areas may be removed leaving patches in a mosaic pattern.

This proposed action includes maintenance of the unit for a period of 10 years. Maintenance can include additional thinning of regenerating vegetation and piling and burning or herbicide application.

Pile Burning: Debris from hand cutting would be piled and burned at a later date. All piles would have adequate time to cure to promote the best burning conditions for consumption. Piles would be placed far enough away from leave trees to prevent scorching. Pile burning would be accomplished by federal firefighters when conditions are acceptable to implement the burn. Acceptable conditions are defined as 1 inch or better of snow on the ground or adequate moisture in adjacent vegetation and soils to prevent fire spread from pile. An approved burn plan would be followed to accomplish pile burning. A Colorado smoke permit would be obtained before any pile burning. The smoke permit would be followed to mitigate any smoke issues that might arise during burning operations. Piles would be burned during weather conditions that would minimize smoke impact to surrounding residents. No control lines are expected to be needed for pile burning operations due to snow or adequate moisture during burn days

DESCRIPTION OF NO ACTION ALTERNATIVE

Under the No Action Alternative no treatments would take place on the landscape and the continuity and loading of woody species (pinyon, juniper, oakbrush, serviceberry, etc) would continue to increase to the detriment of lighter fuel types (grass/forb and grass/forb/young shrub). In other locations in across the western United States we have seen increases in fire size, and fire intensity in some of these fuel types over the past 15-20 years as the stands have become more dense and continuous, indicating that there may be an 'optimum' density and continuity in which fire, during more droughty years, can readily spread over large acreages. With the increasing WUI of the Project Area the potential for damage or loss to private lands and improvements under this No Action scenario may be increasing. Losses of structures due to wildfires are occurring more and more frequently throughout the Western United States; additionally, if potential fire size is increasing because of increased continuity and loading the patch sizes created by these fires would obviously be larger, which could be very detrimental to critical habitats.

PLAN CONFORMANCE REVIEW

Name of plan: Glenwood Springs Resource management Plan.

Date Approved: Amended in November 1991-Oil and Gas Leasing and Development-Final Supplemental Environmental Impact Statement: amended Nov.1996-Colorado Standards and Guidelines; amended August 1997-Castle Peak Travel Management Plan; amended in March 1999- Oil and Gas Leasing & Development Final Supplemental Environmental Impact

Statement; amended in November 1999-Red Hill Plan Amendment; and amended in September 2002-Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance 2002 and revised 09/2004.

RELATIONSHIP TO STATUTES, REGULATIONS, OTHER PLANS

•Fire Management- Page 29. Prescriptive vegetation treatments-Reduce hazardous fuel loading and the risks of wildland fire escaping public lands. Maintain or restore shrublands by reducing the encroachment of pinyon-juniper woodlands on shrub and sagebrush communities. Maintain or create diverse seral stages and improve herbaceous understory in sagebrush and mixed mountain shrubland vegetation types.

•Missouri Heights CWPP has surveyed 17 subdivisions known as Missouri Heights and has listed the subdivision along Panorama Drive (County Rd. 170) with a high hazard rating. Recommendations for mitigation were to remove and thin fuels within a defensible zone from 15'-100' around each structure and increase crown spacing to a minimum of 5'.

STANDARDS FOR PUBLIC LAND HEALTH

In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. The five standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands.

The proposed project falls within the Heuschkel and Doyal allotments which were assessed for land health in 2010 as part of the Roaring Fork Landscape (BLM 2011). These allotments occupy a mesa dominated by big sagebrush (*Artemisia tridentata*) with oakbrush (*Quercus gambellii*) found in the swales and pinyon-juniper *(Pinus edulis*) (*Juniperus osteosperma*) on the steeper south-facing slopes. At the time of the assessment, BLM staff concluded that both allotments were meeting all the Standards, but with a gradual downward trend. Pinyon-juniper trees were beginning to encroach into the sagebrush becoming widely scattered throughout most sagebrush communities. To a lesser extent, oakbrush was also beginning to expand into the sagebrush. Sagebrush cover was slightly denser than optimal and cool-season rhizomatous grasses were less abundant than expected. Due to the encroachment of P-J, handcutting was recommended as a treatment to improve land health.

The impact analysis herein addresses whether the proposed action or any alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions for each of the five standards. These analyses are located in the program-specific analysis in this document.

3. Affected Environment & Environmental Consequences

DIRECT AND INDIRECT EFFECTS, MITIGATION MEASURES

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and alternatives. In addition, the section presents comparative analyses of the direct and indirect consequences on the affected environment stemming from the implementation of the various actions.

A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a proposed action and alternative(s) on certain environmental elements. Not all programs, resources or uses are present in the area, or if they are present, may not be affected by the proposed action and alternatives (Table 3-1). Only those elements that are present and potentially affected are described and brought forth for detailed analysis.

Table 3-1. Programs, Resources, and Uses (Including Supplemental Authorities)	***Potentially Affected?***	
	Yes	**No**
Access and Transportation		X
Air Quality	X	
Areas of Critical Environmental Concern		X
Cadastral Survey		X
Cultural Resources	X	
Native American Religious Concerns	X	
Environmental Justice		X
Farmlands, Prime or Unique		X
Fire/Fuels Management	X	
Floodplains		X
Forests	X	
Geology and Minerals		X
Law Enforcement		X
Livestock Grazing Management		X
Noise		X
Paleontology		X
Plants: Invasive, Non-native Species (Noxious Weeds)	X	
Plants: Sensitive, Threatened, or Endangered	X	
Plants: Vegetation	X	
Livestock Grazing Management		X
Realty Authorizations		X
Recreation	X	

Social and/or Economics		X
Soils	X	
Visual Resources	X	
Wastes, Hazardous or Solid		X
Water Quality, Surface and Ground		X
Water Rights		X
Wetlands and Riparian Zones		X
Wild and Scenic Rivers		X
Wilderness/WSAs/Wilderness Characteristics		X
Wildlife: Aquatic / Fisheries		X
Wildlife: Migratory Birds	X	
Wildlife: Sensitive, Threatened, and Endangered Species	**X**	
Wildlife: Terrestrial	X	

Air Quality

Affected Environment

The nearest Class I areas include the Maroon Bells-Snowmass Wilderness, approximately 17 miles to the south and the Flat Tops Wilderness, approximately 26 air miles to the north. The EPA general conformity rule requires a formal conformity determination document for federally sponsored or funded actions in nonattainment areas, or in certain designated maintenance areas when the total direct and indirect net emissions of nonattainment pollutants (or their precursors) exceed specified de minimis levels. Clean Air Act conformity does not apply to this project, since the surrounding landscape is meeting attainment requirements.

Environmental Effects

Proposed Action

Fuel reduction through mechanical treatment would result in short-term vehicle and heavy equipment emissions. Prescribed fire would have short-term, moderate impacts to air quality. Smoke and particle emissions from fires may degrade air quality and visibility in and around the area on a short-term basis during and following a prescribed fire treatment.

No Action Alternative

Under the no action alternative, no impacts would occur to air quality.

Mitigation

Best management practices from the Interagency Smoke Management Guide are incorporated into individual prescribed burn plans. Examples of smoke management techniques and procedures include:

1. Authorization to Burn - consultation and approval by the State of Colorado is a continuing process. The BLM will obtain all necessary air pollutant emission permits and approvals from the State of Colorado prior to initiating a prescriptive fire.
2. Actions to Minimize Emissions and Enhance Dispersion - each prescriptive fire has unique characteristics, but in general, smoke impacts can be greatly minimized by burning

during weather conditions that provide optimal dispersion and wind conditions for the types of materials being burned.

3. Modeling- fire managers assess potential air quality impacts through the use of smoke dispersion modeling techniques (e.g.; SASEM, etc.) to predict particulate matter emissions, smoke plume characteristics, exposure and visibility impacts.
4. Monitoring- Once a prescriptive fire is initiated, the agency monitors weather, burning and smoke dispersion conditions to assure air quality impacts remain within prescribed smoke management levels. If monitoring indicates conditions are no longer within prescription, managers stop the prescriptive treatment or declare the fire an unwanted wildland fire and initiate the Appropriate Management Response.
5. Public Notification and Awareness- interagency fire managers establish and maintain close communications with State and local agencies regarding the status of prescriptive fire treatments.
6. If at all possible provide opportunities for the public to collect firewood, in an effort to reduce the volume of timber and slash targeted in the burn piles. This spreads out the burn emissions over a longer period of time and broader vicinity.

Cultural Resources

Affected Environment

A records search of the general project area, and a Class III inventory of the Area of Potential Effect (APE), as defined in the National Historic Preservation Act (NHPA), was completed by a Colorado BLM permitted cultural resource contracting firm (CRVFO CRIR# 18512-1). Nine new cultural resources were identified and recorded during project inventory. Of the nine new sites recorded, seven (5GF2456.10, 5GF2456.11, 5GF2456.12, 5GF2464.2, 5GF4623.1, 5GF4623.2, and 5GF4631.1) were linear segments. Site 5GF2456 segments 10-12 are a historic transmission line and are *eligible* for the National Register of Historic Places (NRHP). Additionally, site 5GF4623 segments 1 and 2 are segments of a historic ditch and are also *eligible* for the NRHP. Site 5GF2464.2 is an additional segment of the historic ditch previously recorded and is *potentially eligible* for the NRHP. Site 5GF4631.1 is historic road segment which is *not eligible* for the NRHP. Two prehistoric isolated finds of a mano and a flake were identified and recorded during this project and are *not eligible* for the NRHP. Two sites were revisited during project inventory (5GF2456.1 and 5GF2464.1) and no changes were made to their eligibility or management recommendations. 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.

Environmental Effects

Proposed Action

Segments 5GF2456.1, 5GF2456.10, 5GF2456.11, and 5GF2456.12 are all part of a historic transmission line and will not be affected by project implementation. Site 5GF4623.1 and 5GF4623.2 are historic ditch segments which have the potential to be affected through ground disturbance and will be avoided or mitigated during project implementation (see mitigation). Historic ditch segments 5GF2464.1 and 5GF2464.2 are outside of the treatment areas and will not be affected during implementation. The historic road segment 5GF4631.1 is the current access road that will be used during the project but will not be affected since it is not significant. If the below mitigation measures are followed, the project has a determination of *no adverse effect* to cultural resources.

No Action
If no action occurs, potential adverse impacts to unknown cultural resources through project implementation, such as soil disturbance from machinery or soil erosion from vegetation removal, would not occur. On the other hand, cultural properties that could be protected by fuel reduction would remain unknown and when wildfires occurred these resources could not be evaluated during suppression planning. Cultural surveys would only be conducted post-wildfire if surface disturbing rehabilitation was proposed. Sites are highly visible after fires and cultural survey is benefited from the removal of vegetation but the sites are threatened by post-fire erosion and artifact collectors.

Mitigation
Site 5GF4623.1 and 5GF4623.2, the historic ditch, will be avoided by machines during project implementation unless there is a bridge over the feature or a previously obliterated portion allows the operator to cross the ditch without disturbing the side walls. Additionally, brush piles and pile burning will not take place within 100 meters of any eligible or potentially eligible sites.

Additional areas or changes in the methodology to achieve the proposed effect may require additional archaeological inspection by a qualified archaeologist. These changes include but are not limited to prescribed burn, aerator treatment, or other ground disturbing equipment.

Cultural Resource Stipulations
If subsurface cultural values are uncovered during operations, all work in the vicinity of the resource will cease and the authorized officer with the BLM notified immediately. The operator shall take any additional measures requested by the BLM to protect discoveries until they can be adequately evaluated by the permitted archaeologist. Within 48 hours of the discovery, the State Historic Preservation Officer (SHPO) and consulting parties will be notified of the discovery and consultation will begin to determine an appropriate mitigation measure. BLM in cooperation with the operator will ensure that the discovery is protected from further disturbance until mitigation is completed. Operations may resume at the discovery site upon receipt of written instructions and authorization by the authorized officer.

Native American human remains
Pursuant to 43 CFR 10.4(g), the holder must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony on federal land. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery that could adversely affect the discovery. The holder shall make a reasonable effort to protect the human remains, funerary items, sacred objects, or objects of cultural patrimony for a period of thirty days after written notice is provided to the authorized officer, or until the authorized officer has issued a written notice to proceed, whichever occurs first.

Native American Religious Concerns

Affected Environment
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.

Environmental Effects

Proposed Action

No cultural resources were located during the field inventory that suggests that the project area holds special significance for Native Americans for traditional or religious purposes and the project would not alter or limit any access if there were traditional uses that are not known to the agency. Native American tribal consultation was conducted for the proposed undertaking with the Ute Indian Tribe of the Uintah and Ouray Reservation, Southern Ute Indian Tribe, and the Ute Mountain Ute Tribe on May 30, 2012. No concerns or comments were received regarding this project.

No Action

Under this alternative, vegetation would not be treated and no ground disturbance would occur. This would lessen the potential to expose sensitive Native American resources as well as lessen the potential for indirect effects from illicit collection or vandalism, and cumulative impacts.

Mitigation

Changes to the area or in the methodology to achieve the proposed effect may require additional archaeological inspection by a qualified archaeologist and therefore might require additional tribal consultation.

Fire/Fuels Management

Affected Environment Wildland Urban Interface

Immediately adjacent to Project Area are numerous subdivisions and ranches. Within the project area there is a variety of infrastructure including power lines, and road systems. More homes and infrastructure and improvements will be built on adjacent private lands in the future.

Environmental Effects

Proposed Action

The proposed action would 1) reduce risk to WUI areas, including infrastructure 2) provide for firefighter and public safety 3)reintroduce a more natural fire regime to portions of the landscape and 4) re-establish a more natural vegetation mosaic and ease wildfire management due to the creation of a mosaic of vegetation age classes.

Reestablishment of a More Natural Vegetation Mosaic

Through mechanical treatments, prescribed burning/pile, and seeding, the vegetation/fuels mosaic would become much more natural in patch size, age class, and vegetation diversity. Specifically, the landscape would be less dominated by older woody species, particularly pinyon

and juniper, but also oakbrush. The treatments would create a mosaic of small, medium, and occasionally large patches of younger vegetation that are dominated by grasses, forbs, and more vigorous young shrubs, including sagebrush, and resprouting oakbrush. These treated patches would be surrounded by a matrix of older vegetation, including untreated sagebrush/grass, mountain shrub, and pinyon/juniper.

Reintroduction of a More Natural Fire Regime to Portions of the Landscape

Due to general fire exclusion on this landscape over the past 80-100 years for a variety of reasons, there is a need to reintroduce disturbance, and the benefits of mechanical treatment and pile burning, onto this landscape. These treatments will contribute to a more natural mosaic of vegetation species, patch sizes, and age classes on the landscape. Additionally, these treatments would help to recycle nutrients back into the soil; these nutrients would then become more available to support new, vigorous growth of earlier seral species, particularly grasses, forbs, and young sagebrush. Through mechanical treatment and pile burning both fuel loadings and fuel continuity would also be modified to a lighter, more natural fuel loading as well as a reduction in fuel continuity, particularly stand density and stand continuity, across the landscape. With regard to the fuel types found on this landscape this change in fuel continuity can best be understood primarily as multiple changes in vegetation type, age class, and/or stand density across the landscape,(i.e. stands of older pinyon/juniper juxtaposed next to grass/forb openings or numerous small patches of grass/forb/young sagebrush scattered throughout a stand of older sagebrush). These changes to vegetation and fuels should provide a fuel break should fire occur in the area.

Reduced Risk to Wildland Urban Interface Areas

Because this project will occur within the Wildland Urban Interface, these treatments may be of higher intensity on the landscape, with the intention of creating more early seral (grass/forb or grass/forb/young sagebrush), and more fire resistant fuel types, near values such as private residences, power lines, and other improvements. With fuel treatment in the WUI, the future fire behavior would be altered or reduced; the combination of lighter fuel loading and decreased flame length reduces a fires 'resistance to control' and allows firefighters to be more successful in controlling and extinguishing threatening fires. Additionally, the risk of ignition generally decreases with younger vegetation because it contains less dead woody debris and litter.

Managing Future Wildfires

Through mechanical treatment and pile burning across this landscape the future management of fire would be enhanced. Fires would have less potential to spread with high intensity and high rates of spread due to a decrease in both woody fuel loading and fuel continuity; subsequently, in treated areas where fires become less intense and spread more slowly firefighters can control, manage, or extinguish them, depending on the objectives for each specific fire. Additionally, firefighters would have more areas to use as escape routes and safety zones while managing fire.

No Action Alternative

Under the No Action Alternative no additional treatments would take place on the landscape and the continuity and loading of woody species (pinyon, juniper, oakbrush, serviceberry, etc) would continue to increase to the detriment of lighter fuel types (grass/forb and grass/forb/young shrub). Other locations in Western Colorado have seen increases in fire size, and fire intensity in some of these fuel types over the past 15-20 years as the stands have become more dense and continuous, indicating that there may be an 'optimum' density and continuity in which fire,

during more droughty years, can readily spread over large acreages. With the increasing WUI in the Project Area the potential for damage or loss to private lands and improvements under this No Action scenario may be increasing. Losses of structures due to wildfires are occurring more and more frequently throughout the Western United States. The associated rise in fire behavior and intensity would make the fires more resistant to suppression and place firefighter and the general public at greater overall risk when fires do occur.

Forests

Affected Environment

Much of the project area is not considered to be forested cover types. Most of the pinyon/juniper (PJ) found are the result of no disturbances such as fire and insects. Such disturbances would function to maintain these areas as sagebrush/grasslands, range land or as mature sagebrush community. As a result much of the PJ that would be affected by the proposed action is relatively young in age, 40-120 years old, lightly to moderately stocked stands that are exhibiting encroachment into sagebrush and mountain shrub communities. Many of the PJ stands in the project area could be identified for treatment. Within the project area there are stands in the early stages of stand development/type conversion from sagebrush rangeland to PJ. These stands still exhibit characteristics of the former sage community with productive sagebrush, abundant perennial bunch and sod grasses, and forbs commonly found within the sage community. In the absence of disturbance/treatment these sites will develop into mature PJ woodlands in another 50-100 years. The PJ resources that would be influenced by the proposed action could have some limited value locally as a source of limited firewood and posts for fence construction as well as Christmas trees. However, this area has not been identified for commercial firewood harvests.

Cut and Pile treatments will produce approximately 50-100 piles per acre with piles having a 10 foot diameter foot print.

Areas that will be treated with machinery Hydro-Axe, or Fecon Flail will grind trees in to a mulch material that will leave chip depths from 2-6" that will spread this debris anywhere from a 6 foot diameter foot print to 10-15 foot diameter area.

Environmental Effects

PJ encroachment would be removed by either mechanical treatment with machinery, hand cut and piled and burned. Such treatments would preempt the gradual development of PJ woodland characteristics within sagebrush and mountain shrub communities. Removing PJ would promote a type conversion back to early seral favoring the development and expansion of sagebrush community. The removal of these woodland resources would have little to no impact on commercial forest product production as none of the project area is considered in the commercial forest base.

No Action Alternative

Under the no action alternative, there would be no impacts to existing woodland resources. In the absence of disturbance causing events, pinyon/juniper will continue to establish and mature within the sagebrush communities. The young developing woodlands would continue to mature and form closed canopy stands and outcompete the sagebrush communities.

Plants: Invasive Non-Native Species (Noxious Weeds)

Affected Environment

To date, some weed mapping has occurred on the Panorama Subdivision Area, but it has not been systematic or comprehensive and has covered only a small extent of the total land area. Observations by various BLM specialists have provided most of the information on weed distribution. Weed mapping in the Panorama Subdivision Area by the BLM is scheduled to be completed in 2013. Information on weeds gathered over the next year would be used to determine appropriate treatments in relation to the proposed action.

Biennial thistles including bull thistle (*Cirsium vulgare*), musk thistle (*Carduus nutans*), and plumeless thistle (*Carduus acanthoides*), are frequently found in the uplands and drainages. Canada thistle (*Breea arvense*) occurs along almost every riparian reach, sometimes in dense populations, and both Canada thistle and houndstongue occur along most roads. While not common, Russian knapweed (*Acroptilon repens*) occurs in one population near Cattle Creek. Additional weeds such as burdock (*Arctium minus*), cheatgrass (*Anisantha tectorum*), and common mullein (*Verbascum thapsus*) were noted as present in the treatment area with variable population sizes.

Environmental Effects

Proposed Action

It is likely that noxious and invasive weeds would initially increase as a result of the disturbance associated with the project. Surface-disturbing activities such as prescribed burning and mowing provide a niche for the establishment and expansion of invasive non-native species, particularly when these species are already present in the surrounding area. Additionally, fire vehicles and mowing equipment could introduce and spread noxious and invasive weed seeds. To help minimize the potential for spread of invasive non-native species during or after the treatments, the project leader would ensure that equipment involved in surface disturbing actions is clean of noxious weed seeds or propagative parts prior to entry onsite. In addition, pre-treatment of weeds in proposed prescribed burn units would occur in areas with high weed density to minimize weed expansion following fire. Post-burn weed monitoring and treatments would be conducted for three years following prescribed burning and mowing treatments. Any Colorado-listed noxious weeds would be promptly treated and controlled according to the appropriate timing for each particular weed species. Staging of fire vehicles and mowing equipment would not occur in weed-infested areas. Prior to prescribed burning or mowing, the project leader would consult with the BLM Invasive Species Coordinator concerning appropriate staging areas.

No Action Alternative

Under this alternative, none of the ground disturbance associated with the proposed action would occur. Noxious and invasive plant species would be expected to continue at current levels.

Plants: Sensitive, Threatened, and Endangered

Affected Environment

Table 4 summarizes the 2010 species list from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate plant species (USFWS 2010) and the November 2009 Colorado

BLM State Director's Sensitive Species List for BLM sensitive plants (BLM 2009) that may occur within Garfield County and be impacted by the proposed action.

Table 4. **Special Status Plant Species in Garfield County**

Federally Listed, Proposed or Candidate Plant Species		
Species	**Habitat**	**Potential Habitat Present / Absent**
Colorado hookless cactus (*Sclerocactus glaucus*)	Typically found on rocky hills and alluvial benches in xeric fine-textured soils overlain with cobbles and pebbles. It grows in salt desert shrub and pinyon-juniper communities at elevations ranging from approximately 4,500 to 6,600 feet.	**Absent:** The project area is above the elevational range of this species and no rocky, salt desert shrub habitat is present.
DeBeque phacelia (*Phacelia submutica*)	A rare annual plant restricted to expansive clay soils derived from the Atwell Gulch and Shire Members of the Wasatch Formation in Mesa and Garfield Counties, Colorado. The plant grows on sites that are nearly barren of vegetation.	**Absent:** No exposures of Atwell Gulch or Shire Members of the Wasatch formation present
Parachute penstemon (*Penstemon debilis*)	Endemic to steep, talus slopes on the southern escarpment of the Roan Plateau in Garfield County, Colorado. The plants are found only on the oil-shale rich Parachute Creek Member of the Green River Formation between 8,000 to 9,200 feet in elevation.	**Absent**: No exposures of Green River shale in the project area.
Ute ladies'-tresses (*Spiranthes diluvialis*)	Habitat for this threatened species is found below 6,500 feet along streams, lakes or in wetland areas with seasonally saturated or subirrigated soils.	**Absent**: The project area is above 7000 feet, which is above the elevational range for this species, and no subirrigated soils present.
BLM Sensitive Plant Species		
Species	**Habitat**	**Potential Habitat Present/Absent**
Cathedral Bluffs meadowrue (*Thalictrum heliophilum*)	Known from 18 occurrences in Garfield, Mesa and Rio Blanco Counties. The meadowrue is a narrowly endemic plant found in dry shale barren communities between 6,200 and 8,800 feet in elevation.	**Absent:** No dry shale barrens present.
DeBeque milkvetch (*Astragalus debequaeus*)	Found only on the Wasatch Formation in the vicinity of DeBeque and Rulison, Colorado. Plants are common on the Atwell Gulch Member of the Wasatch Formation but are rare elsewhere. Elevations of known populations are between 5,100 and 6,400 feet.	**Absent:** The project area is above the elevational range of this species and has no exposures of the Atwell Gulch Member of Wasatch Formation.
Harrington's penstemon (*Penstemon harringtonii*)	Open sagebrush communities on rocky loam or rocky clay loam soils between the elevations of 6,200 to 10,000 feet.	**Present:** Occupied and suitable habitat exists in the project area.

Naturita milkvetch (*Astragalus naturitensis*)	Occurs on sandstone mesas, ledges, crevices, and slopes in pinyon-juniper woodlands at elevations from 5,000 to 7,000 feet. It grows in areas of shallow soils over exposed bedrock. Naturita milkvetch has been found in several locations on the western end of the CRVFO.	**Absent:** No sandstone rimrock or ledges present within project area.
Piceance bladderpod (*Lesquerella parviflora*)	A Colorado endemic known only in Garfield, Mesa, and Rio Blanco Counties. It occurs on shale outcrops of the Green River Formation, on ledges and slopes of canyons in open areas at elevations ranging from 6,200 to 8,600 feet.	**Absent:** No exposed shale outcrops of the Green River Formation are present.
Roan Cliffs blazing star (*Mentzelia rhizomata*)	Found only on steep talus slopes of the Green River Formation in Garfield County. The species occurs on eroding oil shale at elevations from 5,800 to 9,000 feet. In the GSFO, the Roan Cliffs blazing star is known to occur on the cliffs of the Roan Plateau, along Parachute Creek drainage and in Main Elk Creek, near New Castle, Colorado.	**Absent:** No exposed talus slopes are present within the project area.

Environmental Effects

Proposed Action

The project would have "No Effect" on any listed or sensitive plant species other than Harrington's penstemon. Harrington's penstemon is known to occur in low densities within sagebrush habitat throughout the project area. Mechanical equipment such as the fecon flail and hydro-axe create only minor surface disturbance when soils are dry and therefore the treatment is likely to cause negligible physical disruption of habitat. The mulch created by the masticated shrubs and trees may bury some Harrington's penstemon plants in the vicinity. If the mulch is more than a few inches thick, it would block sunlight and moisture from reaching the ground and may cause mortality of penstemon plants.

Pile burning of handcut P/J may also cause mortality of penstemon plants and may sterilize the soil. However, since pile burning is only planned in steep, rocky areas dominated by P-J, it is unlikely that penstemon occur in these areas, so impacts of pile burning would be negligible.

No Action Alternative

Under the No Action alternative, no mechanical treatment would take place. There would be no short-term impacts to the BLM sensitive plant species, Harrington's penstemon. Pinyon pines and juniper trees would continue to encroach into sagebrush habitat, with canopy cover of trees becoming denser over time. Harrington's penstemon cannot survive under a dense canopy of P-J, so in the long-term, populations of Harrington's penstemon in the project area would decline.

Woody species (P-J and oakbrush) would continue to expand in area and canopy cover, resulting in higher fuel loading. This increases the risk of future fires becoming larger and more severe when they do occur. Cheatgrass (*Bromus tectorum*) presently exists in scattered infestations along the county roads in the vicinity. Fires cause a flush of nitrogen in the soil, which favors the establishment and expansion of invasive annuals, such as cheatgrass. If fires, especially

intense fires, occur in the area, cheatgrass is likely to increase in areal cover and abundance, to the detriment of perennial grasses and forbs.

Land Health Standards
The project area falls within the Roaring Fork Landscape which was assessed in 2010. At the time of the assessment, BLM staff concluded that the project area was meeting Standard 4 for special status, threatened, and endangered plants. The BLM sensitive plant, Harrington's penstemon, grows in open sagebrush habitat, not under P-J woodlands, so the project area was beginning to exhibit a downward trend due to the encroachment of P-J into sagebrush habitat. Implementation of the proposed action is expected to result in short-term reductions in the population of Harrington's penstemon within the project area, but result in a long-term increase in the population. The proposed action would maintain or improve habitat conditions for special status, threatened or endangered plants.

Plants: Vegetation

Affected Environment

The project area is on top of a rolling plateau south of Cattle Creek. The project area is dominated by big sagebrush on the flatter terrain, with oakbrush in the swales and north-facing slopes and Pinyon pine and juniper woodlands on the steeper, south-facing slopes. Herbaceous vegetation consists mainly of western wheatgrass (*Pascopyrum smithii*), prairie junegrass (*Koeleria macrantha*), crested wheatgrass (*Agropyron smithii*), and Sandberg bluegrass (*Poa secunda*). Due to the long interval since the last fire or other disturbance, the age-class of vegetation across the landscape is moving toward late-seral stage. Sagebrush canopy cover is becoming denser and herbaceous vegetation is less abundant than expected. Pinyon-juniper trees are beginning to encroach into the sagebrush, becoming widely scattered throughout most of the sagebrush habitat.

There is no active livestock use in the project area, but because the area is an undeveloped island of public land surrounded by private land ranchettes, it is a refuge for local deer and elk herds. Maintaining a healthy sagebrush community with diverse and abundant herbaceous vegetation will also benefit wildlife.

Environmental Effects

Proposed Action
The proposed action would remove pinyon-juniper trees and oakbrush that are encroaching into sagebrush habitat. Although sagebrush would not be targeted for removal in the project area, the mechanical treatment of encroaching trees and oakbrush is likely to reduce the canopy of sagebrush slightly. The openings created in the sagebrush would stimulate production of grasses and forbs in the understory. The proposed action would also reduce the height and density of mature oakbrush patches in the project area. Oakbrush would resprout readily following treatment, creating a mosaic of seral stages within this plant community.

No Action Alternative
Under the no action alternative, there would be no mechanical treatments within the project area. In the absence of fire or other disturbances, PJ and oakbrush would continue to encroach into the sagebrush habitat, eventually replacing the sagebrush. Herbaceous plant cover would also decline over time with the increase in woody plant cover.

Land Health Standards
At the time of the assessment, BLM staff concluded that the project area was meeting all the Standards, but with a gradual downward trend. Pinyon-juniper trees were beginning to encroach into the sagebrush becoming widely scattered throughout most sagebrush communities. To a lesser extent, oakbrush was also beginning to expand into the sagebrush. Sagebrush cover was slightly denser than optimal and cool-season rhizomatous grasses were less abundant than expected. Due to the encroachment of PJ, handcutting was recommended as a treatment to improve land health. Implementation of the proposed actions is expected to maintain or improve the health of plant communities.

Recreation

Affected Environment
This project encompasses the Glenwood Springs Extensive Recreation Management Area (ERMA). The Glenwood Springs ERMA refers to areas where recreation is not the principal management objective and is managed to provide visitor information, minimal sanitation facilities, and access according to the 1988 Glenwood Springs Resource Area Record of Decision and Resource Management Plan.

Environmental Effects
Proposed Action
The proposed projects may temporarily create negative visitor experiences in the direct project area while the project was being completed. However, these impacts would be temporary and short-term. Preventing wildfires in the area would benefit recreation experiences in the long-term as visual aesthetics would be protected and recreational activities could continue to occur.

No Action Alternative
The No Action alternative may lead to wildfires in the future, which could have negative impacts to recreation experiences through visual aesthetics and possible restriction of activities. Temporary, short term impacts would be avoided, but the long-term benefit would not occur.

Mitigation: Post public notices to inform the public of intended project work. Mitigation to reduce conflicts with public land user (big game hunter) includes: Mechanical vegetation treatments should avoid the annual Colorado rifle big game hunting seasons.

Soils

Affected Environment
A review of the soil survey by the NRCS for the *Aspen-Gypsum Area, Colorado, Parts of Eagle, Garfield and Pitkin Counties* indicate five soil map units occur within the proposed project area (NRCS 1992). The NRCS soil map unit descriptions (NRCS 2012) are provided below:

19 Cochetopa-Antrobus association – This soil map unit is found on mountainsides at elevations from 8,500 to 10,500 feet and on slopes of 25 to 50 percent. Approximately 45 percent of this unit is Cochetopa loam and 40 percent of this unit is Antrobus very stony loam. The other 15 percent of this unit is composed of other soil types. The Cochetopa soil is deep, well drained and derived from basaltic alluvium and colluvium. The surface runoff is rapid and the water erosion

hazard is moderate to severe. The Antrobus soil is deep, well drained and derived from basaltic alluvium and colluvium. The surface runoff is rapid and the water erosion hazard is moderate. Primary uses for this soil map unit include rangeland and homesite development.

87 Morval-Tridell complex – This soil map unit is found on alluvial fans and mountainsides at elevations ranging from 6,800 to 8,000 feet and on slopes of 12 to 50 percent. Approximately 55 percent of this unit is Morval loam, 30 percent Tridell moderately stony loam, and the other 15 percent a mixture of soil types. The Morval soil is deep, well drained and is derived from basaltic alluvium. Surface runoff is medium and the water erosion hazard is moderate. The Tridell soil is deep, well drained and is derived from basaltic alluvium and colluvium. Surface runoff is rapid and the water erosion hazard is high. Primary uses for this soil map unit include rangeland and firewood production.

94 Showalter-Morval complex – This soil map unit is found on alluvial fans, high terraces, and valley sides at elevations ranging from 7,000 to 8,500 feet and on slopes of 5 to 15 percent. Approximately 45 percent of this unit is Showalter very stony loam, 35 percent Morval loam, and the other 20 percent a mixture of soil types. The Showalter soil is deep, well drained and is derived from basaltic alluvium. Surface runoff is medium and the water erosion hazard is slight. The Morval soil is deep, well drained and is derived from basaltic alluvium. Surface runoff is medium and the water erosion hazard is slight. Primary uses for this soil map unit include rangeland, hayland, crops, and homesite development.

95 Showalter-Morval complex – This soil map unit is found on alluvial fans, high terraces, and valley sides at elevations ranging from 7,000 to 8,500 feet and on slopes of 15 to 25 percent. Approximately 45 percent of this unit is Showalter very stony loam, 35 percent Morval loam, and the other 20 percent a mixture of soil types. The Showalter soil is deep, well drained and is derived from basaltic alluvium. Surface runoff is medium and the water erosion hazard is moderate. The Morval soil is deep, well drained and is derived from basaltic alluvium. Surface runoff is medium and the water erosion hazard is slight. Primary uses for this soil map unit include rangeland, hayland, and homesite development.

106 Tridell-Brownsto stony sandy loams – This soil map unit is found on terraces and mountainsides at elevations ranging from 6,400 to 7,700 feet and on slopes of 12 to 50 percent. Approximately 45 percent of this unit is Tridell soil and 35 percent Brownsto soil with the other 20 percent being a mixture of several soil types. The Tridell soil is deep, well drained and is derived from sandstone and basalt alluvium and colluvium. Surface runoff is rapid and the water erosion hazard is moderate. The Brownsto soil is deep, well drained and is derived from calcareous sandstone and basalt alluvium. Surface runoff is rapid and the water erosion hazard is moderate. Primary uses for this soil map unit include livestock grazing and wildlife habitat.

A small portion of the southwestern treatment area is mapped as having fragile soils, likely due to steeper slopes and shallow soil depths. However, based on the Roaring Fork Land Health Assessment, BLM staff determined that Standard 1 for Upland Soils is currently being met at all upland sites assessed, with only minor departures from desired soils conditions observed (BLM 2011).

Environmental Effects

Proposed Action

Mechanical Methods of Fuels Reduction

Fuels reduction through mechanical methods generally has less potential for reducing soil productivity and increasing erosion and sediment. Use of the roller chopper, hydro-ax, and fecon machinery usually create short-term increases in surface erosion, but sediment production is more than offset by the mulch (litter) and the increase in grass/forb vegetation. Litter on the surface reduces soil detachment from overland flow and raindrop impact, reduces bare ground,

and protects the soil surface. These methods have the advantage of rapidly incorporating more litter into the soil.

No Action Alternative
Under the no action alternative, there would be no impacts to soils. However, if a large wildfire occurred within the area as a result of the no action alternative, while it would be a natural process, the landscape could experience a high degree of surface runoff and soil loss.

Mitigation
Areas of higher intensity treatments should be monitored for soil productivity, erosion and weeds. If deemed necessary, soil amendments (i.e. fertilizers, bacterial or fungal additives, mulch, etc.) and/or seeding may be required to enhance soil health and maintain native vegetation.

Provide opportunities for the public to collect firewood, in an effort to reduce the volume of timber and slash targeted in the burn piles, thus reducing soil impacts from burning.

Land Health Standard 1 for Soils
Based on the Land Health Assessment, BLM staff concluded that soils are meeting Standard 1 (BLM 2011). With proper BMP's, implementation of the proposed action is not anticipated to degrade soil health from current conditions.

Visual Resources

Affected Environment
Lands administered by BLM CRVFO are classified as Visual Resource Management (VRM) Class I, II, III, and IV. The area described in this project is classified as VRM Class III and IV. The objective for VRM Class II as defined in the BLM's Manual H-8410-1 Visual Resource Inventory (BLM 1986), is described below.

VRM Class III – The objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

VRM Class IV – The objective is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of the viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

The Roaring Fork Valley vicinity contains variety of landscape character types and varying degrees of alteration from human activities. It consists mainly of a broad stretch of valley floor, bordered by foothills, and Steep Mountain slopes. Topography varies from drainage valley bottoms, , to steep foothills rising to steeper mountain peaks or cliffs in the background. Numerous ephemeral drainages and gulches dissect the landforms adding to the variety of the topographic texture. The area is characteristic of agricultural land, scattered rural residences, small population centers, transportation corridors, and utilities. Vegetation consists of pastoral land, sagebrush flats, pinyon-juniper woodlands, and mixed oak/mountain shrub communities.

Environmental Consequences

Proposed Action

Fuels treatments can alter the appearance of the vegetation and may contrast with adjacent vegetation by creating openings and obvious changes in color and texture due to the change in plant height. Treatments would be designed and areas flagged prior to treatment and visually monitored (in highly visible locations from major transportation corridors, population centers, and other scenic viewsheds within the Proposed Action boundary) during treatment to avoid the creation or enhancement of linear features within the landscape. Treatments would be designed to repeat natural mosaic openings found within the landscape, particularly when the treatment occurs within sagebrush and mixed mountain shrubland. Feathering or undulating edges would be incorporated into treatments where practicable to break up any distinct lines created in the landscape. Any new access roads or staging areas would be reclaimed once the project is complete to prevent further surface disturbance and visual contrast.

Over the long term, fuels treatments would likely improve visual resources and with the inclusion of design and mitigation measures no new contrast or long term impacts would be introduced.

No Action Alternative (Current Management)

Under the No Action Alternative: The existing landscape character would be maintained and VRM objectives would be met. However, if a large wildfire occurred within the area, while it would be a natural process, the landscape could experience a high degree of modification and contrasts to the existing landscape.

Water Quality

Affected Environment

The proposed fuel treatments lie within the Cattle Creek watershed, tributary to the Roaring Fork River. At least one water diversion ditch runs across BLM lands in the proposed project area, and delivers irrigation water to adjacent private lands. No intermittent or ephemeral stream channels are specifically identified in the proposed treatment areas.

The State of Colorado has developed *Stream Classifications and Water Quality Standards* that identify beneficial uses of water and numeric standards used to determine allowable concentrations of water quality parameters (CDPHE 2010a). Cattle Creek is listed under the Upper Colorado River Basin (Region 12) and have water use classifications described below:

Stream Segment Description	Classifications
3a. Mainstem of the Roaring Fork River, from a point immediately below the confluence with Hunter Creek, to a point immediately below the confluence with the Fryingpan River. All tributaries to the Roaring Fork River, including wetlands, from a point immediately below the confluence with Hunter Creek to the confluence with the Colorado River, except for those tributaries included in Segment 1 and specific listings in Segments 3b-10.	Aquatic Life Cold 1 Recreation E Water Supply Agriculture

Aquatic life cold 1 indicates that a stream segment is capable of sustaining a wide variety of cold water biota. Recreation E refers to stream segments in which surface waters are used for primary contact recreation. Water supply and agriculture refer to stream segments that are suitable or

intended to become suitable for potable water supplies and suitable for irrigation or livestock use.

The State of Colorado has developed a *303(d) List of Water Quality Limited Segments Requiring TMDLS* and *Monitoring and Evaluation List* (CDPHE 2010b) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone. No streams in the proposed project area are on this list, suggesting water quality standards are currently being met.

In addition, the proposed action will take place entirely in the upland vegetation, thus not in close proximity to Cattle Creek or any riparian vegetation. During the Roaring Fork Land Health Assessment, BLM staff concluded that water quality in Cattle Creek was meeting Standard 5 and the associated riparian areas were meeting properly functioning condition (BLM 2011).

Environmental Effects

Proposed Action

A modification in the vegetative community, whether by fire or mechanical treatment, can affect the timing, intensity, duration of runoff within a watershed. With mechanical treatments, the litter that would remain on the soil surface following treatment would detain runoff from the area. Modification to the timing and duration of runoff would be very minor. The thick litter layer benefit would not occur with follow-up burns. Exposure of the mineral soil surface to full rain drop impact, combined with reduction of the surface organic matter, could decrease water infiltration rates. This decrease in rate of infiltration could directly affect the rate of overland flows. Bare areas, subjected to high intense storms immediately after burning, can expect flashy runoff. The significance of these impacts would be dependent on climatic conditions during the time following the burn and prior to successful vegetation regrowth. For a measurable response to occur, adequate potential water yield and project scale are required. The configuration, size, and location of these projects within a watershed would result in a localized response. Runoff characteristics would generally return to pretreatment conditions within one to three growing seasons.

No Action Alternative

Under the no action alternative, there would be no impacts to water quality. However, if a large wildfire occurred within the area as a result of the no action alternative, while it would be a natural process, the landscape could experience a high degree of surface runoff and sedimentation to Cattle Creek.

Mitigation

See Cultural Mitigations to protect the water diversion ditch.

Locate brush piles and pile burning outside of natural drainage ways or swales.

Land Health Standards for Water Resources

Based on the Land Health Assessments, BLM staff concluded that water quality is meeting Standard 5 (BLM 2011). Implementation of the proposed action is not anticipated to degrade water quality from current conditions.

Wildlife: Aquatic / Fisheries

Affected Environment

Aquatic wildlife includes animals, either vertebrate or invertebrate, which live in water for most or all of their life. Aquatic habitats include: lakes, ponds, springs, seeps, rivers and streams. Aquatic wildlife species are vulnerable to land use activities due to the fragility of their aquatic environments.

Amphibians possibly present in wetlands would include various species of frogs (e.g., western chorus frog (*Pseudacris triseriata*)), and toads (e.g., Great Basin spadefoot (*Spea intermontana*)), which are adapted to seasonal flow regimes in arid environments. Aquatic macroinvertebrates most likely to occur in the area include water striders, water boatmen, predaceous diving beetles, and the aquatic larvae of caddis flies and true flies.

The Proposed action is located above Cattle Creek on the flatter, gently rolling topography of Missouri Heights, set back away from the rim of the Cattle Creek drainage. Cattle Creek contains brook trout, brown trout, and mottled sculpin in the lower reaches and native cut throat trout in the upper reaches. The fuel treatments would occur above the lower reaches of Cattle Creek.

Environmental Effects

Proposed Action

The fuel treatments will not occur within 100 feet of any perennial stream or other persistent surface water, thereby minimizing impacts to aquatic wildlife species. It should also be noted that the treatments would occur away from the rim of the Cattle Creek drainage. There would be no surface disturbance to the vegetation on the slopes of the drainage, reducing any potential for erosion or sediment reaching the creek.

No Action Alternative

Under the no action alternative, no fuel treatments would be conducted. However, impacts of a large, severe wildfire could conceivably affect a larger habitat area and probably result in substantial increases in sediment loading.

Mitigation

None Needed.

Land Health Standards

A formal Land Health Assessment and Riparian Proper Functioning Condition (PFC) Assessment was completed for the area in 2010 (BLM 2011). Cattle Creek was rated as having a proper functioning condition meaning that most or all of the indicators (within a system's potential) have been met, meeting Standard 2 for riparian systems. The proposed fuel treatment should have little bearing on the watersheds ability to continue to meet Standard 3 for aquatic wildlife.

Wildlife: Migratory Birds

Affected Environment

The CRVFO planning area provides both foraging and nesting habitat for a variety of migratory birds that summer, winter, or migrate through the area. The Proposed Action is located along the

northern extent of Missouri Heights north of Carbondale (approximate elevation 7,000 - 7,400 feet). The project area is landlocked by private land to the east, south, west, and the Cattle Creek Drainage to the north. Vegetation in the project area is comprised of sagebrush parks with patches of pinyon juniper woodlands and oakbrush. Given the vegetation at the project site, the area provides cover, forage, and nesting habitat for a variety of migratory species.

Raptors and neotropical migrants (both game and nongame) are afforded protection under the Migratory Bird Treaty Act. BLM Instruction Memorandum No. 2008-050 provides guidance toward meeting the Bureau of Land Management's (BLM) responsibilities under the Migratory Bird Treaty Act (MBTA) and the Executive Order (EO) 13186. The guidance directs Field Offices to promote the maintenance and improvement of habitat quantity and quality. To avoid, reduce or mitigate adverse impacts on the habitats of migratory bird species of conservation concern to the extent feasible, and in a manner consistent with regional or statewide bird conservation priorities.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973." The "*BIRDS OF CONSERVATION CONCERN 2008"* (U.S. Fish and Wildlife Service 2008) is the most recent effort to carry out this mandate.

The MBTA prohibits the "take" of a protected species. Under the Act, the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The USFWS interprets "harm" and "kill" to include loss of eggs or nestlings due to abandonment or reduced attentiveness by one or both adults as a result of disturbance by human activity, as well as physical destruction of an occupied nest.

The conservation concerns are the result of population declines - naturally or human-caused, small ranges or population sizes, threats to habitat, or other factors. Although there are general patterns that can be inferred, there is no single reason why any species is on the list. Habitat loss is believed to be the major reason for the declines of many species. When considering potential impacts to migratory birds the impact on habitat, including: 1) the degree of fragmentation/connectivity expected from the proposed project relative to before the proposed project; and 2) the fragmentation/connectivity within and between habitat types (e.g., within nesting habitat or between nesting and feeding habitats. Continued private land development, surface disturbing actions in key habitats (e.g. riparian areas) and the proliferation of roads, pipelines, powerlines and trails are local factors that reduce habitat quality and quantity for many species.

The Colorado River Valley Field Office (CRVFO) is within the Southern Rockies/Colorado Plateau Bird Conservation Region (BCR). The USFWS 2008 list of Birds of Conservation concern includes the following:

USFWS 2008 List of Birds of Conservation Concern within the CRVFO.

Species	Habitat Description	Potential Occurrence [1, 2, 3]
Gunnison Sage-Grouse	Sagebrush communities for hiding and thermal cover, food, and nesting; open areas with sagebrush stands for leks;	Not Present

Species	Habitat Description	Potential Occurrence [1, 2, 3]
(Centrocercus minimus)	sagebrush-grass-forb mix for nesting; wet meadows for rearing chicks. Not found within the CRVFO.	
American Bittern *(Botaurus lentiginosus)*	Marshes and wetlands; ground nester. Summer resident.	Not Present
Bald Eagle *(Haliaeetus leucocephalus)*	Nests in forested rivers and lakes; winters in upland areas, often with rivers or lakes nearby. Generally winter resident, occasional breeding.	Possible
Ferruginous Hawk *(Buteo regalis)*	Open, rolling and/or rugged terrain in grasslands and shrubsteppe communities; also grasslands and cultivated fields; nests on cliffs and rocky outcrops. Fall/ winter resident, non-breeding.	Unlikely
Golden Eagle *(Aquila chrysaetos)*	Open country, grasslands, woodlands, and barren areas in hilly or mountainous terrain; nests on rocky outcrops or large trees. Year-round resident, breeding.	Possible
Peregrine Falcon *(Falco peregrines)*	Open country near cliff habitat, often near water such as rivers, lakes, and marshes; nests on ledges or holes on cliff faces and crags. Spring/summer resident, breeding.	Unlikely
Prairie Falcon *(Falco mexicanus)*	Open country in mountains, steppe, or prairie; winters in cultivated fields; nests in holes or on ledges on rocky cliffs or embankments. Spring/summer resident, breeding.	Unlikely
Snowy Plover *(Charadrius alexandrinus nivosus/tenuirostris)*	Sparsely vegetated sand flats associated with pickleweed, greasewood, and saltgrass. Spring migrant, non-breeding. Spring migrant, non-breeding.	Not Present
Mountain Plover *(Charadrius montanus)*	High plain, cultivated fields, desert scrublands, and sagebrush habitats, often in association with heavy grazing, sometimes in association with prairie dog colonies; short vegetation.	Not Present
Long-billed Curlew *(Numenius americanus)*	Lakes and wetlands and adjacent grassland and shrub communities. Spring/ fall migrant, non-breeding.	Not Present
Yellow-billed Cuckoo *(Coccyzus americanus)*	Riparian, deciduous woodlands with dense undergrowth; nests in tall cottonwood, mature willow riparian, moist thickets, orchards, abandoned pastures. Summer resident, breeding.	Not Present
Flammulated Owl (*Otus flammeolus*)	Old-growth or mature ponderosa pine and ponderosa-Douglas-fir forests, often mixed with mature aspen. In some areas, pure aspen or old-growth pinyon-juniper woodlands. Common summer resident in western and southern Colorado.	Not Present
Burrowing Owl *(Athene cunicularia)*	Open grasslands and low shrublands often in association with prairie dog colonies; nests in abandoned burrows created by mammals; short vegetation.	Not Present
Lewis's Woodpecker *(Melanerpes lewis)*	Open woodland, often logged or burned, including oak, coniferous forest (often ponderosa), riparian woodland, and orchards, less often in pinyon-juniper.	Unlikely
Willow Flycatcher *(Empidonax traillii)*	Riparian and moist, shrubby areas; winters in shrubby openings with short vegetation. Summer resident, breeding.	Unlikely
Gray Vireo *(Vireo vicinior)*	Uncommon summer resident (primarily Mesa County). In habitats open pinyon-juniper woodlands.	Not Present
Pinyon Jay *(Gymnorhinus cyanocephalus)*	Common to abundant resident of pinyon-juniper woodlands. Year-round resident that travels broadly in flocks.	Possible
Juniper Titmouse *(Baeolophus*	Pinyon-juniper woodlands, especially juniper; nests in tree cavities. Year-round resident, breeding.	Possible

Species	Habitat Description	Potential Occurrence [1, 2, 3]
ridgwayi)		
Veery *(Catharus fuscescens)*	Dense riparian thickets and hillside brush near streams. Uncommon spring/fall migrant in Eastern Colorado.	Not Present
Bendire's Thrasher *(Toxostoma bendirei)*	Desert, especially areas of tall vegetation, cholla cactus, creosote bush and yucca, and in juniper woodland Possible summer resident.	Not Present
Grace's Warbler *(Dendroica graciae)*	Breeds in ponderosa pine forests. Uncommon summer resident in southwest Colorado.	Not Present
Brewer's Sparrow (*Spizella breweri*)	Sagebrush shrublands or mountain mahogany or rabbitbrush shrublands. Common summer resident in Western Colorado.	Possible
Grasshopper Sparrow *(Ammodramus savannarum)*	Open grasslands and cultivated fields. Spring migrant, non-breeding.	Not Present
Chestnut-collared Longspur *(Calcarius ornatus)*	Open grasslands and cultivated fields. Spring migrant, non-breeding.	Not Present
Black Rosy-Finch *(Leucosticte atrata)*	Open country including mountain meadows, high deserts, valleys, and plains; breeds/ nests in alpine areas near rock piles and cliffs. Winter resident, non-breeding.	Not Present
Brown-capped Rosy-Finch *(Leucosticte australis)*	Alpine meadows, cliffs, and talus and high-elevation parks and valleys. Summer resident, breeding.	Not Present
Cassin's Finch *(Carpodacus cassinii)*.	Open montane coniferous forests; breeds/ nests in coniferous forests. Year-round resident, breeding.	Possible

[1] Kingery, H. E, editor. 1998. Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership, Denver, Colorado.

[2] Andrews, R. and R. Righter. 1992. Colorado Birds: A Reference to Their Distribution and Habitat. Denver Museum of Natural History. Denver, Colorado.

[3] Cornell Lab of Ornithology: All About Birds Bird Guide and eBird Range Map. 2011. http://www.allaboutbirds.org/guide/search and http://ebird.org/content/ebird/.

Many species of raptors (red-tailed hawks, Cooper's hawks, kestrels and owls) not on the Fish & Wildlife Service's Birds of Conservation Concern list in addition to listed species would irregularly pass through the area or forage within the area if prey was sighted. Raptor Surveys have not been conducted in the area.

Environmental Effects

Proposed Action

Limited specific bird count or species data exists for the area. The documented effects of fuels treatments on avian communities are poorly understood. Generally responses of individual bird species to land management activities like fuels reduction are habitat and species specific. Most species are dependent on habitats beyond BLM lands for a substantial portion of their lives, and land use activities can at most only contribute to their conservation.

Effects on Habitat. The Proposed Action would somewhat mimic a natural fire disturbance for oakbrush and pinyon juniper woodlands. The overall short-term impact of the Proposed Action would be an increase in habitat for avian species that prefer a mosaic of habitat types, earlier seral stages, or an open tree/shrub canopy that increases in grasses, forbs, and other plants.

Migratory birds are also threatened by long-term changes in habitat due to a catastrophic wildfire. The Proposed Action would contribute locally to decreasing the threat of catastrophic wildland fire that changes large blocks of habitat indiscriminately.

Mortality. No intentional take of native bird species is anticipated under the Proposed Action. Adult and fledged migratory birds are generally able to escape fuels reduction activities but there is a possibility that young in the nest may perish depending on the timing of the action. In addition the accidental trampling of ground nests and eggs could occur. However, species with scrape nests have precocial young, which quickly leave the nest upon hatching. Potential direct morality of eggs, nestlings, and adults would be minimized by conducting the fuel treatments after July 1, when the young of most species have fledged and adults are no longer tied to specific territories.

Disturbance and Displacement. The potential effects on migratory birds at the local scale includes disturbance of individuals from treatment activities. Immediately after any treatment, there could be a loss of habitat for wildlife species. There would be direct and indirect impacts because of the loss of vegetative cover. The action would in the short-term physically disrupt daily activities and may cause nest abandonment by the adults who are intolerant to disturbance. It is likely that the Proposed Action would result in the temporary displacement of bird species due to noise associated with treatments and human presence. This impact would be minimal because the project size, duration, and the availability of similar habitats nearby.

Weed Treatments. Herbicides affect wildlife directly when animals are exposed to chemicals, or indirectly when wildlife habitat is altered. Herbicides used by the CRVFO have a low toxicity to terrestrial wildlife. Therefore, use of approved herbicides would primarily affect wildlife through habitat modification. Its use in forested rangeland and other wildlife habitat areas could benefit wildlife by controlling invasive plant species and promoting the establishment and growth of native plant species that provide more suitable wildlife habitat and forage (BLM 2007).

Summary. Large fires can modify habitat and affect relationships between migratory birds and their environment. The cumulative effect of fuels treatments would help move BLM lands towards a condition where wildfires create early successional habitats but at smaller patch scales and in a more heterogeneous pattern, which should protect and improve wildlife habitat across the region. The effects of the Proposed Action (with the proposed mitigation below) on migratory bird species is expected to be mixed, minimal and isolated, but not enough to influence populations of migratory birds long-term on a landscape level.

Mitigation

1. Do not cut standing dead or live trees with (a) natural cavities or holes, and (b) evidence of nesting (e.g. cup nests, cavity nests, platform nests, pendant nest, sphere nest) or roosting birds.
2. Avoid trampling and cutting trees near active scrape/ground nests (i.e. a shallow depression in soil or vegetation lined with bits of vegetation, small stones or feathers).
3. Avoid fuel treatments until after July1st, when the young of most species have fledged and adults are no longer tied to specific territories.

No Action Alternative
The no action alternative would support migratory birds that favor older seral stage habitats. No migratory birds would be displaced, disturbed or perish due to fuels treatments.

It is difficult to quantify the impacts of a potential catastrophic wildfire before it occurs. Some individuals would likely perish in large unplanned wildland fires. Migratory birds would be threatened by long-term changes in habitat. Large fires destroy habitat locally and increase habitat fragmentation across the region. There would be direct and indirect impacts on migratory birds because of the loss of vegetative cover within the burned area. However it must be recognized that some migratory bird species utilize early successional habitats that develop following wildfires.

From a wildlife management standpoint the desired long-term condition where wildfires create early successional habitats but at smaller patch scales and in a more heterogeneous pattern, which should protect and improve wildlife habitat across the region habitat may not occur naturally.

Mitigation
None needed.

Wildlife: Sensitive, Threatened, and Endangered

Affected Environment
The table below summarizes the latest: 1) species list from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate aquatic wildlife species (USFWS 2010) and 2) Colorado BLM State Director's Sensitive Species List for aquatic wildlife species; that may occur within the CRVFO and be impacted by the Proposed Action (BLM 2009).

Special Status Aquatic Wildlife Species.

Federally Listed, Proposed or Candidate Aquatic Wildlife Species		
Species	Habitat/Range	Occurrence/ Potentially Impacted
Greenback cutthroat trout *(Oncorhynchus clarki stomias)*	Federally listed as threatened. The greenback is the subspecies of cutthroat trout native to the Platte River drainage on the Eastern Slope of Colorado, while the Colorado River cutthroat trout is the subspecies native to the Western Slope of Colorado. Historically found in cold, clear, gravely headwater streams and mountain lakes of the Arkansas and South Platte River systems in Colorado and part of Wyoming. The greenback cutthroat trout was not identified on the USFWS list for Garfield County; however, recent surveys have identified a population in Cache Creek.	Absent /No
Bonytail *(Gila elegans)*	Federally listed as endangered. This large chub is a member of the minnow family found in large, fast-flowing waterways of the Colorado River system. Their current distribution and habitat status are largely unknown due to its rapid decline prior to research into its natural history. The bonytail is extremely rare in Colorado and no self-sustaining population exists. Only one has been captured in the state since 1980.	Absent /No

Federally Listed, Proposed or Candidate Aquatic Wildlife Species		
Colorado pikeminnow (formerly Colorado squawfish) *(Ptychocheilus lucius)*	Federally listed as endangered. Primarily exists in the Green River below the confluence with the Yampa River, the lower Duchesne River in Utah, the Yampa River below Craig, Colo., the White River from Taylor Draw Dam near Rangely downstream to the confluence with the Green River, the Gunnison River in Colorado, and the Colorado River from Palisade, Colo., downstream to Lake Powell. Colorado pikeminnow populations in the upper Colorado River basin are now relatively stable or growing. Designated Critical Habitat includes the Colorado River and its 100-year floodplain west (downstream) from the town of Rifle.	Absent /No
Humpback chub *(Gila cypha)*	Federally listed as endangered. Found in deep, clear to turbid waters of large rivers and reservoirs over mud, sand or gravel. The nearest known population of humpback chub is in the Colorado River at Black Rocks west of Grand Junction..	Absent /No
Razorback sucker *(Xyrauchen texanus)*	Federally listed as endangered. The razorback sucker was once widespread throughout most of the Colorado River Basin from Wyoming to Mexico. In the upper Colorado River Basin, they are now found only in the upper Green River in Utah, the lower Yampa River in Colorado and occasionally in the Colorado River near Grand Junction. Because so few of these fish remain in the wild, biologists have been actively raising them in hatcheries in Utah and Colorado and stocking them in the Colorado River. Designated Critical Habitat for the razorback sucker includes the Colorado River and its 100-year floodplain west (downstream) from the town of Rifle.	Absent /No

Colorado BLM Sensitive Aquatic Species		
Species	Habitat/Range	Occurrence / Potentially Impacted
Northern leopard frog (*Rana pipiens)*	Generally found between 3,500 to 11,000 feet, in wet meadows and in shallow lentic habitats. They require year-round water sources, deep enough to provide ice free refugia in the winter. Within the CRVFO, this species has been documented in locales where quality riparian vegetation exists in conjunction with perennial water sources. Larger populations of this species have been documented northwest of King Mountain within the small drainage that feeds King Mountain (Ligon) Reservoir, June Creek and East Divide Creek south of Silt, Colorado, and in portions of the Rifle Creek watershed north of Rifle, Colorado.	Absent/No
Great Basin spadefoot toad	This toad is known to occupy a wide variety of habitat including lowlands, foothills, and shortgrass plain. This species generally inhabits and breeds in seasonal pools and ponds in pinyon-juniper woodland, sagebrush, and semi-desert shrubland habitats, mostly below 6,000 feet in elevation.	Absent /No
Bluehead sucker (*Catostomus discobolus*) , Flannelmouth sucker (*Catostomus latipinnis), and* Roundtail chub (*Gila robusta)*	Primarily found in larger rivers but may also be found in smaller tributaries with good connectivity to larger river systems. These fish are endemic to the Colorado River basin and reside within the mainstem Colorado River and its major tributary streams. Given their biology, feeding habits, habitat needs, and niche in the ecosystem, these species can persist in the face of actions that increase sediments to streams and rivers containing these species.	Absent/No

Mountain sucker (*Catostomus platyrhynchus*)	The mountain sucker is found primarily in small, low- mid elevation streams in northwestern Colorado with gravel, sand or mud bottoms. They inhabit undercut banks, eddies, small pools, and areas of moderate current. Young fish prefer backwaters and eddies. A population of mature adults is found in Steamboat Lake. Within the CRVFO, only known occurrence is in Piceance Creek.	Absent /No
Colorado River cutthroat trout (CRCT) (*Oncorhynchus clarkii pleuriticus)*	CRCT are one of three subspecies of native trout found in Colorado. CRCT prefer clear, cool headwaters streams with coarse substrates, well-distributed pools, stable streambanks, and abundant stream cover. CRCT have been documented as occurring in Parachute Creek, Abrams Creek, Battlement Creek, Mitchell Creek, North Thompson Creek and Red Dirt Creek. It is likely that all of the perennial waters capable of harboring fish historically contained this native trout species. CRCT have hybridized with non-native salmonids in many areas, reducing the genetic integrity of this subspecies. Rainbow trout hybridize with cutthroat trout. Brook and brown trout tend to replace them in streams and rivers.	Absent /No

The table below summarizes the latest: 1) species list (USFWS 2010) from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate terrestrial wildlife species and 2) Colorado BLM State Director's Sensitive Species List (BLM 2009) for terrestrial species; that may occur within the CRVFO and be impacted by the Proposed Action.

Special Status Terrestrial Wildlife Species.

Federally Listed, Proposed or Candidate Terrestrial Wildlife Species		
Species	Habitat/Range	Occurrence/ Potentially Impacted
Black-footed Ferret (*Mustela nigripes*)	Federally listed as endangered. Black-footed ferrets have ranged statewide but never have been abundant in Colorado. Their habitat included the eastern plains, the mountain parks and the western valleys – grasslands or shrub lands that supported some species of prairie dog, the ferret's primary prey. State and federal biologists have established two major black-footed ferret colonies: one at Coyote Basin (Colorado-Utah border west of Rangely) and another at the BLM's Wolf Creek Management Area southeast of Dinosaur National Monument .	Absent /No
Canada lynx (*Lynx Canadensis)*	Federally listed as threatened. Canada lynx occupy high-latitude or high-elevation coniferous forests characterized by cold, snowy winters and an adequate prey base. In the western US, lynx are associated with mesic forests of lodgepole pine, subalpine fir, Engelmann spruce, and quaking aspen in the upper montane and subalpine zones, generally between 8,000 and 12,000 feet in elevation. Although snowshoe hares (*Lepus americanus*) are the preferred prey, lynx in also feed on mountain cottontails (*Sylvilagus nuttallii*), pine squirrels (*Tamiasciurus hudsonicus*), and blue grouse (*Dendragapus obscurus*). The Forest Service has mapped suitable denning, winter, and other habitat for lynx within the White River and Routt National Forests. The mapped suitable habitat comprises areas known as Lynx Analysis Units (LAUs) that are the approximate the size of a female's home range. Several LAUs include small parcels of BLM lands.	Absent/No

Federally Listed, Proposed or Candidate Terrestrial Wildlife Species		
Mexican spotted owl *(Strix occidentalis lucida)*	Federally listed as threatened. This owl nests, roosts, and hunts in mature coniferous forests in canyons and foothills. The key habitat components are old-growth forests with uneven-age stands, high canopy closure, high tree density, fallen logs and snags. The only extant populations in Colorado are in the Pikes Peak and Wet Mountain areas of south-central Colorado and the Mesa Verde area of southwestern Colorado.	Absent /No
Greater Sage-grouse (*Centrocercus urophasianus)*	Candidate for Federal listing. Sage-grouse, as the name implies, are found only in areas where sagebrush is abundant, providing both food and cover. Sage-grouse prefer relatively open sagebrush flats or rolling sagebrush hills. In winter, sagebrush accounts for 100% of the diet for these birds. In addition, it provides important escape cover and protection from the elements. In late winter, males begin to concentrate on traditional strutting grounds or leks. Females arrive at the leks 1-2 weeks later. Leks can occur on a variety of land types or formations (windswept ridges, knolls, areas of flat sagebrush, flat bare openings in the sagebrush. Breeding occurs on the leks and in the adjacent sagebrush, typically from March through May. Females and their chicks remain largely dependent on forbs and insects for food well into early fall. Within the CRVFO sage-grouse are still present in the northeast part of the Field Office in the Northern Eagle/Southern Routt population, while small (<500 birds), probably has, or had, a relationship with the larger population in Moffat, Rio Blanco and western Routt counties, and probably with the Middle Park population to the east.	Absent /No
Yellow-billed cuckoo *(Coccyzus americanus)*	Candidate for Federal listing. This secretive species occurs in mature riparian forests of cottonwoods and other large deciduous trees with a well-developed understory of tall riparian shrubs. Western cuckoos breed in large blocks of riparian habitats, particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.). A few sightings of yellow-billed cuckoo have occurred in western Colorado along the Colorado River near Grand Junction.	Absent/No

Colorado BLM Sensitive Terrestrial Wildlife Species		
Species	Habitat/Range	Occurrence/ Potentially Impacted
Townsend's big-eared bat (*Corynorhinus townsendii*) and Fringed myotis (*Myotis thysanodes)*	Occur as scattered populations at moderate elevations on the western slope of Colorado. Habitat associations are not well defined. Both bats will forage over water and along the edge of vegetation for aerial insects. Commonly roost in caves, rock crevices, mines, or buildings, but also may roost in tree cavities. Both species are widely distributed and usually occur in small groups. Townsend's big-eared bat is not very abundant anywhere in its range. This is attributed to patchy distribution and limited availability of suitable roosting habitat (Gruver, J.C. and D.A. Keinath 2006).	Possible /No
Midget faded rattlesnake *(Crotalus viridis concolor)*	A small, pale-colored subspecies of the common and widespread western rattlesnake. The midget faded rattlesnake is endemic to northwestern Colorado, including western Garfield County. Habitats include sandy and rocky areas in pinyon-juniper and semi-desert shrub.	Absent /No

Northern goshawk (*Accipter gentilis)*	An uncommon resident in mountains. Occasional migrant that may winter at lower elevations. Predominantly uses mature stands of aspen, and ponderosa/ lodgepole pines. Goshawks prey on small-medium sized birds and mammals. It breeds in coniferous deciduous and mixed forests. The nest is typically located on a northerly aspect in a drainage or canyon and is often near a stream. Nest areas contain one or more stands of large, old trees with a dense canopy cover. A goshawk pair occupies its nest area from March until late September. The nest area is the center of all movements and behaviors associated with breeding from courtship through fledging.	Possible/No
Brewer's sparrow (*Spizella berweri*)	Neotropical migrant that summers in western Colorado mountain parks and spring/fall migrant at lower elevations. Breeds primarily in sagebrush shrublands.	Possible /No
American Peregrine Falcon *(Falco peregrines anatum)*	Rare spring and fall migrant in western valleys. Peregrine falcons inhabit open spaces associated with high cliffs and bluffs overlooking rivers. The falcon nests on high cliffs and forages over nearby woodlands.	Absent /No
Ibis, white-faced (*Plegadis chihi)*	The species inhabits primarily freshwater wetlands, especially cattail (*Typha* spp.) and bulrush (*Scirpus* spp.) marshes. This bird is a very rare, non-breeding, summer migrant to western Colorado valleys and mountain lakes This species feeds in flooded hay meadows, agricultural fields, and estuarine wetlands. This species breeds in isolated colonies in mainly shallow marshes with "islands" of emergent vegetation. This species is more commonly found on the eastern slope of Colorado (e.g. San Luis valley).	Absent/No

Environmental Effects

Proposed Action

The federally listed, proposed, or candidate or BLM sensitive aquatic or terrestrial species are not expected to be impacted based on the habitat types present within the project area and documented occurrences. Therefore, the Proposed Action would have *No Effect* on these species.

Northern Goshawk.

The current CRVFO land use plan (BLM 1984) protects raptor nesting and fledging habitat with a timing limitation stipulation. This limitation restricts certain disturbing activities within a one-quarter mile buffer zone around the nest site from February 1 to August 15. No nest sites are known to occur within the area of the Proposed Action.

In general, the potential effects to special status wildlife from the Proposed Action would be similar to those described for other wildlife (see sections on Wildlife, Aquatic and Wildlife, Terrestrial), although they are potentially more vulnerable due to their relative rarity and sensitivity.

No Action Alternative

If no large fires occur in the future, the no action alternative would then support terrestrial wildlife species that favor older seral stage habitats. No species would be displaced, disturbed or perish due fuels treatment activities.

If a catastrophic wildfire would occur, some individuals would likely perish in large unplanned wildland fires. Terrestrial wildlife would be threatened by large-scale, long-term changes in habitat. Large fires destroy habitat locally and increase habitat fragmentation across the region. There would be direct and indirect impacts because of the loss of vegetative cover within the burned area. However it must be recognized that some terrestrial wildlife species and their prey utilize early successional habitats that develop following wildfires.

Aquatic species could be impacted by the decrease in ground cover and an increase in the sediment load from soil erosion on nearby drainage slopes if a catastrophic wildfire were to occur.

Mitigation
None needed.

Land Health Standards
The Proposed Action is located within the Roaring Fork Landscape. A formal Land Health Assessment and Determination Document for this landscape were completed and signed in 2011 (BLM 2011). The Proposed Action should not result in a failure of the landscape to achieve Standard 4 for threatened, endangered, and other special status species.

Wildlife: Terrestrial

Affected Environment

The CRVFO supports a wide variety of terrestrial wildlife species that summer, winter, or migrate through the area. The habitat diversity provided by the broad expanses of sagebrush, mixed mountain shrub, aspen, pinyon-juniper woodlands, other types of coniferous forests, and riparian/wetland areas support many species. The current condition of wildlife habitats varies across the landscape. Some habitat is altered by power lines, pipelines, fences, public recreation use, residential and commercial development, vegetative treatments, livestock and wild ungulate grazing, oil and gas development, and roads/trails. These factors have contributed to some degradation/fragmentation of habitat as well as causing disturbance to some species.

Mammals
Numerous small mammals reside within the CRVFO, including ground squirrels *(Spermophilus* spp.*)*, chipmunks (*Neotamias* spp.), rabbits *(Sylvilagus* spp.), skunks *(Mephitis mephitis)*, and raccoons *(Procyon lotor)*. Many of these small mammals provide the main prey for raptors and larger carnivores. These species are most likely to occur along the drainages, near the margins of dense oakbrush, in pinyon-juniper woodland, or in the small area of aspen and spruce/fir. Larger carnivores expected to occur include the bobcat (*Lynx rufus*) and the coyote (*Canis latrans*). Black bears (*Ursus americanus*) make use of oaks and the associated chokecherries and serviceberries for cover and food, while mountain lions (*Felis concolor*) are likely to occur during seasons when mule deer (*Odocoileus hemionus*) are present.

The mule deer *(Odocoileus hemionus)* is a recreationally important species that is common throughout suitable habitats in the region. Another recreationally important big game ungulate (hoofed animal), the Rocky Mountain elk *(Cervus elaphus nelsonii)*, is also present. Mule deer and elk usually occupy higher elevations, forested habitat, during the summer and then migrate

to sagebrush-dominant ridges and south-facing slopes at lower elevation in the winter. BLM lands provide a large portion of the undeveloped winter range available to deer and elk.

Resident Raptors and Other Birds
Birds of prey (eagles, falcons, hawks, and owls) may migrate through the area or nest in cottonwoods, conifers, or very tall oaks, while the numerous songbirds and small mammal populations provide the primary prey base. Common raptor species in the CRVFO include the: red-tailed hawk (*Buteo jamaicenis*), American kestrel *(Falco sparverius),* great horned owl *(Bubo virginanus)*, Cooper's hawk *(Accipiter cooperii),* and sharp-shinned hawk *(A. striatus).*

Passerine (perching) birds commonly found in the area include the: American robin (*Turdus migratorius*), pinyon jay (*Gymnorhinus cyanocephalus*) western scrub-jay (*Aphelocoma californica*), and black-billed magpie (*Pica pica*). Two gallinaceous species, the wild turkey (*Meleagris gallopavo*) and the Dusky grouse (*Dendragapus obscures*), are found throughout the CRVFO.

Streams, rivers, reservoirs, ponds, and associated riparian vegetation provide habitat for a wide variety of waterfowl and shorebirds. Common species include: great blue herons (*Ardea Herodias*), Canada geese *(Branta canadensis),* mallards *(Anas platyrhynchos),* pintails *(A. acuta),* gadwalls *(A. strepera),* and American wigeon *(A. americana).*

Reptiles and Amphibians
Reptile species most likely to occur in the project area include the western fence lizard (*Sceloporus undulatus*) and gopher snake (bullsnake) (*Pituophis catenifer*) in xeric shrublands or grassy clearings and the western terrestrial garter snake (*Thamnophis elegans*) along creeks/riparian areas. Other reptiles potentially present along creeks, are the milk snake (*Lampropeltis triangulum*) and smooth green snake (*Opheodrys vernalis*).

<u>Environmental Effects</u>
Proposed Action
It is likely that during the fuel treatments that resident wildlife would be displaced away from the area due to noise, commotion, and human presence. Overall, the proposed action should have minimal impact to terrestrial wildlife.

Reptiles, Birds and Mammals. The proposed action would somewhat mimic a natural disturbance. Openings can create a diverse landscape that can favor many terrestrial wildlife species that require a mix of seral stages for optimum habitat conditions. Opening size is species specific but generally the opening should not be large (i.e. >100 acres). This project would reduce the age-class diversity of the tree component of the ecosystem and likely improve grass and forb diversity and cover (see vegetation section) by creating small openings (i.e. <100 acres). Foraging opportunities (e.g. growth and palatability) for herbivores and their predators would increase as understory grasses, forbs, and shrubs reestablish.

Big Game. The project area is located within CDOW Game Management Unit (GMU) 444. Big game populations are managed to achieve population and sex ratio objectives established for Data Analysis Units (DAU). A DAU is the geographic area that represents the year-round range of big game herds and includes all of the seasonal ranges of a specific herd. The primary

decisions needed for each DAU plan are how many animals should exist in the DAU and what is the desired sex ratio for the population of big game animals e.g., the number of males per 100 females. No finalized DAU plans (D-53 and E-16) exist for the GMU that encompasses the project area (CDOW 2012). Mule deer may be found in the area yearlong. The entire project area is CDOW mapped mule deer summer and winter range. Mule deer summer range is where 90% of the individuals are located between spring green-up and the first heavy snowfall (CDOW 2011a). Mule deer winter range is where 90% of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up (CDOW 2011b). The entire project area is CDOW mapped elk winter range and severe winter range and the western and southern portions of the project area are mapped elk winter concentration areas. CDOW mapped elk winter range is similar to the mapped mule deer winter range (CDOW 2011c). CDOW mapped elk severe winter range is where 90% of the individuals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten (i.e. winter of 1983-1984) (CDOW 2011d). CDOW mapped winter concentration area is that part of the winter range of elk where densities are at least 200% greater than the surrounding winter range density during the average five winters out of ten from the first heavy snowfall to spring green-up (CDOW 2011e).

A primary issue for wildlife, especially deer and elk, in the Roaring Fork Valley is the decline (quality and quantity) of vegetation on winter ranges. Reasons for this decline are many and varied. Mature pinyon juniper stands provide little food for deer and large uninterrupted pinyon juniper woodlands have limited value except as thermal and escape cover. The diversity of seral stages and improved herbaceous understory vegetation will benefit big game by creating a mix of optimum habitat conditions.

Weed Treatments. Herbicides affect wildlife directly when animals are exposed to chemicals, or indirectly when wildlife habitat is altered. Herbicides used by the CRVFO have a low toxicity to terrestrial wildlife. Therefore, use of approved herbicides would primarily affect wildlife through habitat modification. Its use in forested rangeland and other wildlife habitat areas could benefit wildlife by controlling invasive plant species and promoting the establishment and growth of native plant species that provide more suitable wildlife habitat and forage (BLM 2007).

No Action Alternative

The no action alternative would support terrestrial wildlife that favors older seral stage habitats. No terrestrial wildlife would be displaced, disturbed or perish due to fuels treatments.

Reptiles, Birds and Mammals (including big game). If no large fires occur in the future, woody plants would continue to move toward the older age classes. With a lack of understory of grass and forbs, older stands would benefit wildlife that utilize the mature trees and their seed crops for security/escape cover and food.

It is difficult to quantify the impacts of a potential catastrophic wildfire before it occurs. Impacts of a large, severe wildfire could conceivably affect a larger habitat area and potentially have a greater impact on local wildlife populations. The direct impact of a catastrophic fire would be large scale vegetation changes that would likely reduce the local populations of reptiles, birds and mammals in the short-term. Since wildfires often burn larger acreage than the proposed treatment, long-term negative effects are not known.

Weed Treatments. There would be a reduced chance of land management activities spreading weeds and no spraying of weeds resulting in no impacts to terrestrial wildlife from the No Action Alternative.

Mitigation
None needed.

Land Health Standards
A formal Land Health Assessment was completed for the area in 2010 (BLM 2011). The area was meeting Standard 3 for terrestrial wildlife in the action area. Given the vegetation treatment location, the Proposed Action should have little bearing on the watersheds ability to continue to meet Standard 3 for terrestrial wildlife. Implementation of the proposed action is expected to maintain or improve terrestrial wildlife habitat and forage.

CUMULATIVE EFFECTS
Soil and Water. Cumulative impacts to soil and water resources can occur from existing roads, trails and ditches throughout the project area. Roads and trails can contribute to increased surface runoff and accelerated erosion, especially where proper drainage is lacking. Other impacts such as vegetation treatments, weed treatments, or improper livestock grazing may also change water infiltration or runoff rates and affect soil and water resources. Based on limited land management activities occurring across the project area, it is assumed that cumulative effects to soil and water are minor and unmeasureable if proper best management practices are implemented.

RESIDUAL EFFECTS

5. Tribes, Individuals, Organizations, or Agencies Consulted

Carbondale Fire Department, Panorama Ranch H.O.A., Several Public Meetings with adjacent landowners, Ute Tribes (Uintah and Ouray, Southern, Mountain), Colorado State Forest Service, Glenwood Springs Fire Department.

6. List of Preparers

Members of the CRVFO Interdisciplinary Team who participated in the impact analysis of the Proposed Action and alternatives, development of appropriate mitigation measures, and preparation of this EA are listed in Table 6-1, along with their areas of responsibility.

Table 6-1. BLM Interdisciplinary Team Authors and Reviewers

Name	*Title*	*Areas of Participation*
Kimberly Miller	Outdoor Recreation Planner	Recreation, Wilderness, Wild and Scenic Rivers
Monte Senor	Rangeland Management Specialist	Range/Invasives Species
Carla DeYoung	Ecologist	Areas of Critical Environmental Concern,

Table 6-1. BLM Interdisciplinary Team Authors and Reviewers		
Name	*Title*	*Areas of Participation*
		Threatened, Endangered, and Sensitive Plants, Vegetation
Pauline Adams	Hydrologist	Soil, Water, Air Quality
Rusty Stark	Fire Management Specialist	Fire/Fuels, Forestry

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UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COLORADO RIVER VALLEY FIELD OFFICE
SILT, COLORADO

FINDING OF NO SIGNIFICANT IMPACT

DOI-BLM-N040-2012-0012-EA

Finding of No Significant Impact
I have reviewed the direct, indirect and cumulative effects of the proposed action documented in the EA referenced above. The effects of the proposed action are disclosed in the Alternatives and Environmental Effects sections of the EA. Implementing regulations for NEPA (40 CFR 1508.27) provide criteria for determining the significance of the effects. Significant, as used in NEPA, requires consideration of both *context* and *intensity* as follows:

(a) Context. This requirement means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short and long-term effects are relevant (40 CFR 1508.27):

(b) Intensity. This requirement refers to the severity of the impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following are considered in evaluating intensity (40 CFR 1508.27).

1. *Impacts that may be both beneficial and/or adverse.*

The impacts of this activity have been evaluated by staff within the CRVFO and have determined that the proposed action will not have a significant impact on the human environment. One beneficial impact would be reduced threat of wildfire to adjoining communities.

2. *The degree to which the proposed action affects health or safety.* Due to the limited scale, size , and duration of the proposed action there should be little threat to health and safety. All activities will comply with OSHA regulations for safety enforcement.

3. *Unique characteristics of the geographic area such as prime and unique farmlands, caves, wild and scenic rivers, wilderness study areas, or ACECs.* The identified project area has been evaluated using Geographical Informantion Systems and found not to impact areas with unique characteristics. There are no unique characteristics identified within the project area.

4. The degree to which the effects are likely to be highly controversial. The project has been scoped internally with the CRVFO staff, the Colorado State Forest Service, adjacent landowners and Glenwood Springs Fire Department. It was supported by all in scoping and unlikely to be controversial.

5. The degree to which the effects are highly uncertain or involve unique or unknown risks. Treatments in oak brush and Pinon/ Juniper of this nature have been fairly common in the field office. In the implementation of these projects there has been little documentation about unknown effects, or risks that are created from these activities.

6. The degree to which the action may establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. The degree to which this action may establish a precedent for future actions is minimal as all of the management actions are addressed individually through the same environmental evaluation process to determine impacts.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Other activities that take place on and adjacent to this parcel of land (e.g. recreation, residential, development, road construction/maintenance) have had the cumulative effect of altering wildlife habitat. Future activities are difficult to determine and have an unknown effect. The proposed action would create negligible landscape-level cumulative impacts to wildlife when viewed in comparison with those activities currently occurring and likely to occur on adjacent private/other lands.

8. The degree to which the action may adversely affect scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places. A records search of the general project area, and a Class III inventory of the Area of Potential Effect (APE), as defined in the National Historic Preservation Act (NHPA), was completed by a Colorado BLM permitted cultural resource contracting firm (CRVFO CRIR# 18512-1). 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. These surveys and research has been conducted to identify, protect, and mitigate any potential adverse effect that may occur due to these management actions.

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. .
For special status listed the 1) inconsequential amount of direct or indirect habitat modification, 2) transient nature of their potential use of the area, and 3) brief period of treatment related activities in any given part of the project area combine to result in negligible potential for adverse impacts to special status species.

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*
All actions will be implemented with adherence to federal, state, and local government requirements for environmental protection.

Based upon the review of the test for significance and the environmental analyses conducted, I have determined that the actions analyzed in the EA will not significantly affect the quality of the human environment. Accordingly, I have determined that the preparation of an Environmental Impact Statement is not necessary for this proposal.

Authorized Officer
Colorado River Valley Field Office

12-7-2012
Date

DECISION RECORD

DOI-BLM-CO-040-2012-0092 EA

FINAL DECISION: Based on information in the EA, the project record, and consultation with my staff, I have decided to choose the Proposed Action as described in the EA. The project is not expected to adversely impact any resources long term and the benefits of the treatments outweigh any short-term adverse impacts. The fuels reduction project adjacent to the residences and infrastructure in the Panorama Drive area will be of benefit to the community as it will reduce the severity and intensity of a wildfire if one were to occur in this area as well as reduce the risk of damages to private property and improvements.

RATIONALE:
1. The project would remove and rearrange fuels in the area reducing the threat of large scale high severity and high intensity fire to the panorama area.

2. In implementing this project there would be a decreased risk of damage by fire to improvements on both public and private property and maintain the area in a mid. Seral and early seral stage.

3. The fuels reduction project will maintain the area in an early seral state by maintaining the area as a sage brush rangeland. This will be done by reducing encroachment by pinon/juniper, and oak brush as well as mowing in areas of sage brush to stimulate new growth.

MITIGATION MEASURES:
•Class III archeological inventory has already been performed. If historic properties and or artifacts are identified mitigation will have to be developed to protect these sites.

• Best management practices from the Interagency Smoke Management Guide are incorporated into individual prescribed burn plans.

• Site 5GF4623.1 and 5GF4623.2, the historic ditch, will be avoided by machines during project implementation unless there is a bridge over the feature or a previously obliterated portion allows the operator to cross the ditch without disturbing the side walls. Additionally, brush piles and pile burning will not take place within 100 meters of any eligible or potentially eligible sites.

•Additional areas or changes in the methodology to achieve the proposed effect may require additional archaeological inspection by a qualified archaeologist. These changes include but are not limited to prescribed burn, aerator treatment, or other ground disturbing equipment.

• Pursuant to 43 CFR 10.4(g), the holder must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony on federal land. Further, pursuant to 43 CFR 10.4 (c)

and (d), the holder must stop activities in the vicinity of the discovery that could adversely affect the discovery. The holder shall make a reasonable effort to protect the human remains, funerary items, sacred objects, or objects of cultural patrimony for a period of thirty days after written notice is provided to the authorized officer, or until the authorized officer has issued a written notice to proceed, whichever occurs first.

• Areas of higher intensity treatments should be monitored for soil productivity, erosion and weeds. If deemed necessary, soil amendments (i.e. fertilizers, bacterial or fungal additives, mulch, etc.) and/or seeding may be required to enhance soil health and maintain native vegetation.

Provide opportunities for the public to collect firewood, in an effort to reduce the volume of timber and slash targeted in the burn piles, thus reducing soil impacts from burning.

• Locate brush piles and pile burning outside of natural drainage ways or swales.

• Do not cut standing dead or live trees with (a) natural cavities or holes, and (b) evidence of nesting (e.g. cup nests, cavity nests, platform nests, pendant nest, sphere nest) or roosting birds.
• Avoid trampling and cutting trees near active scrape/ground nests (i.e. a shallow depression in soil or vegetation lined with bits of vegetation, small stones or feathers).
• Avoid fuel treatments until after July1st, when the young of most species have fledged and adults are no longer tied to specific territories.

•Mitigation to reduce conflicts with public land users (big game hunters) includes: Mechanical vegetation treatments should avoid the annual Colorado rifle big game hunting seasons.

• If a goshawk nest is found the within ¼ mile of the project area, disturbing activities will be mitigated or curtailed from February 1 – August 15 (BLM 2012).

RIGHT OF PROTEST AND / OR APPEAL:

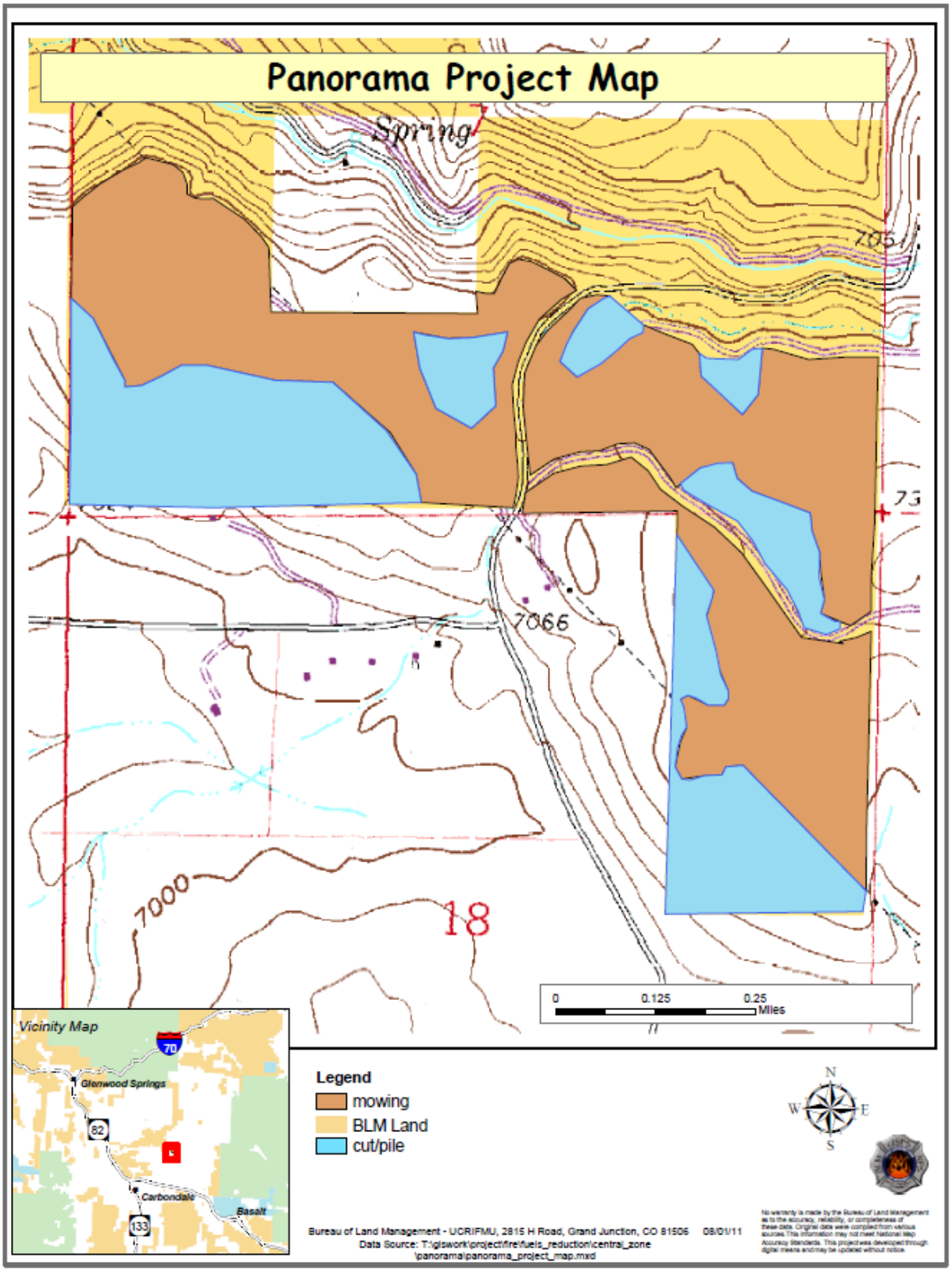
All of the documents supporting this decision are available for the review by the public. Appeal procedures for this decision are outlined in Title 43 of the Code of Federal Regulations (CFR), Part 4. In accordance with Title 43 CFR 4.410 any party to a case who is adversely affected by the decision of an officer of the Bureau of Land Management shall have a right to appeal to the Interior Board of Land Appeals (Board). The Notice of Appeal must be filed in the Bureau of Land Management office that issued the decision within 30 days after the date of service (43 CFR 4.411). Procedures for filing an appeal are described on BLM Form 1842-1 (September 2005) and available online at:
http://www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/slvplc/travel_managemet/final_tmp.Par.46660.File.dat/BLM_1842-1%5B1%5D.pdf

NAME OF PREPARER: Rusty Stark

SIGNATURE OF AUTHORIZED OFFICIAL

Matthew Thorburn
Supervisory Natural Resource Specialist

DATE: 12-7-2012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