ENVIRONMENTAL ASSESSMENT

DOI-BLM-CO-N040-2015-0077 EA

Deer Pen West Pinyon-Juniper Removal

Prepared by:

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LOCATION.

Eagle County, southwest of Burns, Colorado.

LEGAL DESCRIPTIONS.

Deer Pen West Hydro-axe unit: Township 2 South (T2S), Range 85 West (R85W) Sections 27 and 28. Deer Pen West Hand-cutting unit: Township 2 South (T2S), Range 85 West (R85W), Sections 22, 23, 26, 27 and 34. See project maps in Appendix A.

PURPOSE AND NEED FOR ACTION.

The project would remove encroaching pinyon and juniper trees from greater sage-grouse habitat, mule deer and elk winter range, and mule deer severe winter range. It would improve the quality and quantity of sagebrush habitat available to greater sage-grouse, expand on previously implemented habitat restoration work in the watershed, and make progress towards meeting the larger landscape level goal of connecting occupied greater sage-grouse habitats in the Windy Point and Sunnyside areas.

BACKGROUND.

Greater sage-grouse are associated with tall and short species of sagebrush in foothills, sagebrush shrublands, mountain slopes, and in mosaics of sagebrush, grasslands, and aspen in western North America. Throughout the West, sagebrush shrublands continue to be lost, fragmented, or altered due to invasive plants, changes in fire regimes, pinyon and juniper encroachment, climate change, over grazing, and land use impacts including oil and gas developments, roads, croplands, and other human developments (Paige and Ritter 1999, Sage-grouse National Technical Team 2011). Tall, vertical structures such as power poles, overpasses, and encroaching conifers have created new areas for raptors and corvids, which prey on greater sage-grouse, to nest and perch.

Northern Eagle/Southern Routt Conservation Plan. The Northern Eagle/Southern Routt greater sage-grouse population is one of the smaller populations in Colorado (<500 birds). Long-term population estimates for this population show a general decline. In 1995, the Colorado Division of Wildlife (now Colorado Parks and Wildlife [CPW]) signed a Memorandum of Understanding (MOU) with the USFWS to develop local conservation plans for species not yet listed under the Endangered Species Act. A local work group of stakeholders in Northern Eagle and Southern Routt was convened in September 1998. The subsequent Northern Eagle/Southern Routt Greater Sage-grouse Conservation Plan identified the following list of issues to be addressed by conservation actions.

- Power Lines/Utilities
- Habitat Change (pinyon-juniper woodland encroachment)
- Disease

- Pesticides
- Land Use Changes and Residential Development
- Reservoir Development and Other Water-Related Issues
- Recreation
- Predation
- Grazing (both wild and domestic)
- Hunting (NESRGSGWG 2004).

Past Habitat Treatments. The BLM Colorado River Valley Field Office (CRVFO) has successfully implemented similar habitat treatment projects for the Northern Eagle/Southern Routt greater sage-grouse population. Project areas include: the South Cliffs, Deer Pen, Winter Ridge, Pisgah Mountain, and Windy Point areas.

PROPOSED ACTION.

Encroaching pinyon and juniper trees would be mechanically removed from the 196-acre Deer Pen West Hydro-axe unit and the 638-acre Deer Pen West Hand-cutting unit. Encroaching pinyon and juniper trees would be removed, leaving sagebrush, other shrubs, grasses and forbs relatively undisturbed, thus protecting soils from erosion and maintaining or improving the herbaceous understory. Conditions would be improved in greater sage-grouse preliminary priority and preliminary general habitat as well as in mule deer and elk summer and winter range. The project would improve the connectivity of work already completed in the project vicinity including the Deer Pen Greater Sage-Grouse Habitat Improvement Pinyon-Juniper Removal project implemented during fall 2014, as well as other mechanical and prescribed burning projects implemented in the Deer Pen area since 2004. These projects were designed to improve greater sage-grouse habitat by restoring sagebrush shrublands, improve mule deer and elk summer and winter range, and reduce fuel loads.

Deer Pen West Hydro-axe Unit. Encroaching pinyon and juniper trees would be mechanically removed with a contractor-furnished hydro-axe or similar large equipment (e.g, Fecon Bull Hog) where feasible. Pinyon and juniper trees inaccessible to a hydro-axe or other large equipment due to large rocks, steep terrain, delicate soils, or other limitations would be hand-cut by contractor and/or interagency fire crews except where trees need to be retained to protect soils. Trees in drainages that are needed for soil protection would be flagged prior to project implementation. Felled trees would be lopped and branches scattered. Gambel oak, sagebrush, and other brushy vegetation would not be removed. The habitat treatment would be maintained by hand-cutting conifer trees that sprout after the initial treatment.

Deer Pen West Hand-Cutting Unit: Encroaching pinyon and juniper trees with a diameter at breast height of 6 inches or less would be hand-cut by contractor and/or interagency fire crews. These trees are generally less than 100 years old and therefore unlikely to be culturally modified. Felled trees would be lopped and branches scattered. Trees are smaller and less dense in this unit than in the Deer Pen West Hydro-axe unit, so heavy mulching equipment would not be necessary. Because conifer density in the unit is low and trees are relatively small, slash created by this work would not be contiguous across the unit and would not increase wildland fire risk.

Project Design Features.

- The contractor will drive the hydro-axe or other heavy equipment off-route within areas identified for treatment, removing all parts of the tree to a stubble height of 6" or less except where adjacent rocks would damage equipment.
- No new motorized vehicle routes are authorized to be constructed as a result of the proposed action.
- Hand crews will keep vehicles on existing routes.
- If motorized vehicle use or equipment create worn spots in vegetation or soils, the locations will be rehabilitated (e.g., covered with woody material or seeded).
- Wheeled motorized equipment will not be operated when conditions are muddy or the soil moisture is high enough for the vehicles to leave ruts over 4.0 inches deep.
- Woody vegetation will be reduced to a mulch material with a minimum of 80% of the woody material less than 1" in diameter and 6" long. The mulch will be scattered evenly across the soil surface and not remain in piles greater than 8" deep.
- The contractor will be responsible for power-washing or comparable cleaning of all equipment and vehicles used on the project prior to entering the project area to ensure that noxious weed seeds are removed. BLM will require a pre-work inspection to ensure compliance.
- The contractor will post signs (1/8-1/4 mile either side of work area) on public access roads and trails warning visitors of dangerous heavy equipment use in the area. These signs will be checked daily to ensure they are in place. The signage will be coordinated with and pre-approved by the BLM project inspector.
- The project inspector will be informed of any objects or sites of cultural, paleontological, or scientific value such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts. The objects shall not be damaged, destroyed, removed, moved, or disturbed. Any person who knowingly violates this may be subject to fines and/or imprisonment (Public Law 16-95; 16 U.S.C. 470).
- The Public Land Survey System (PLSS) condition in this area is categorized as low risk according to the latest Geographic Coordinate Data Base listing. As directed in 43 CFR 3809.420(b)(9) and CRS 18-4-508, evidence of the PLSS and related Federal interest boundaries will be located and marked for protection prior to any ground-disturbing activity. The BLM Cadastral Surveyor in coordination with the project manager has conducted research to identify local survey records that apply to the project area and has identified local survey evidence to be located and marked for protection. Boundaries near private lands have also been determined to avoid treatment on private lands.

Heavy equipment work in the Deer Pen West Hydro-axe unit would be expected to occur between December 1, 2015 and May 1, 2016. This would avoid Colorado big game rifle hunting seasons and the core breeding period for the majority of migratory birds in the project area.

NO ACTION ALTERNATIVE.

Encroaching pinyon and juniper trees would not be removed from the project area. No change from current management would occur.

ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL.

A hand-cutting alternative that did not include the use of heavy equipment (e.g., hydro-axe, Fecon Bull Hog) was considered. It was determined that hand-cutting trees in the unit being analyzed as the Deer Pen West Hydro-axe unit would be extremely difficult due to the size and density of many of the encroaching pinyon and juniper trees, would result in a much longer duration of disturbance from equipment and humans (months rather than weeks) than the Proposed Action, and would produce large quantities of limbs and trunks from trees greater than 6 inches in diameter that could take several years to break down. Conversely, the Proposed Action would result in work being completed in a much shorter amount of time, and the mulch produced by heavy equipment would break down more quickly and be less visible (i.e., scattered and not remaining in piles greater than 8 inches deep) than large tree limbs and trunks that could be visible above the sagebrush. Therefore the hand-cutting alternative was not analyzed in detail.

PLAN CONFORMANCE REVIEW.

The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3, BLM 2015a).

Name of Plan. Colorado River Valley Field Office Record of Decision (ROD) and Approved Resource Management Plan (RMP) (BLM 2015b).

Date Approved. June 2015.

Decision Number/Page.

- Decision Number VEG-MA-01. Vegetation decisions beginning on page 35.
- Decision Number FWL-MA-6. Terrestrial wildlife decisions beginning on page 41.
- Decision Number SSS-MA-28. Greater sage-grouse decisions beginning on page 51.

Decision Language.

- **VEG-MA-01.** Use planned and unplanned fire and other vegetative treatments, as appropriate, to restore natural disturbance regimes and accomplish biodiversity objectives in accordance with ecological site descriptions, land health assessments, ecological site inventories, and forest stand inventories.
- **FWL-MA-6.** Wildlife habitat improvement projects (e.g., chemical, mechanical, prescribed fire and natural fire managed for resource benefit, biological, and seeding) that achieve the following will be prioritized for implementation:
    - Reduce the encroachment by pinyon-juniper trees and other woody species into the mountain shrub/sagebrush community
    - Reduce the canopy cover in uniform-aged, mature pinyon-juniper and other forest stands
- **SSS-MA-28.** To protect priority habitat for the northern Eagle/southern Routt County Greater sage-grouse population:

    Wildland Fire Management: Allow prescribed fire and unplanned natural fire managed for resource benefits and other vegetation treatments if they are

determined to be beneficial to maintaining or enhancing greater sage-grouse priority habitat.

Name of Plan. Northwest Colorado Greater Sage-Grouse Approved RMP Amendment. (BLM 2015c).

Date Approved. September 2015.

Decision Number/Page.

- MD VEG-1. Vegetation decisions beginning on page 2-4.

Decision Language.

- Sagebrush Steppe (Habitat Restoration) Objective VEG-1: (1) Use habitat restoration as a tool to create and/or maintain landscapes that benefit greater sage-grouse (GRSG); (2) Use integrated Vegetation Management to control, suppress, and eradicate, where possible, noxious and invasive species per BLM Handbook H-1740-2; and (3) in PHMA, the desired condition is to maintain all lands ecologically capable of producing sagebrush (but no less than 70 percent) with a minimum of 15 percent sagebrush cover or as consistent with specific ecological site conditions. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Technical Reference 1734-6).
- Management Decision (MD) VEG-1: (ADH) When planning restoration treatments in GRSG habitat, identify seasonal habitat availability, and prioritize treatments in areas that are thought to be limiting GRSG distribution and/or abundance.
- Conifer Encroachment MD VEG-8: Remove conifers encroaching into sagebrush habitats, in a manner that considers tribal cultural values. Prioritize treatments closest to occupied GRSG habitats and near occupied leks, and where juniper encroachment is phase 1 or phase 2. Use of site-specific analysis and principles like those included in the Fire and Invasives Assessment Team report (Chambers et al. 2014) and other ongoing modeling efforts to address conifer encroachment will help refine the location for specific priority areas to be treated.

RELATIONSHIP TO STATUTES, REGULATIONS, OTHER PLANS.

1. *BLM Manual 6840 – Special Status Species Management.* The objectives of the special status species policy are:
   A. To conserve listed species and the ecosystems on which they depend.
   B. To ensure that actions requiring authorization or approval by the Bureau of Land Management (BLM or Bureau) are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA or other provisions of this policy.
2. The Northern Eagle/Southern Routt Greater Sage-grouse Conservation Plan is a cooperative effort between private landowners and state and federal agencies to conserve greater sage-grouse and their habitats in Northern Eagle and Southern Routt counties. See Background section.
3. Colorado River Valley Field Office Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance (2002, Revised 2014.)

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.

A Formal Land Health Assessment was conducted in the Burns to State Bridge Watershed in 2006 which included the project area (BLM 2008). This watershed was found to be meeting all land health standards, but with a few issues. These issues were related primarily to heavy browsing of shrubs by big game animals (leading to decadence and/or mortality of shrubs) and encroachment of pinyon and juniper trees into sagebrush parks. In some areas, sagebrush stands were old, overly dense, and lacked diversity and cover of herbaceous species.

The impact analysis 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 each program-specific analysis in this document.

AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES.

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and no action alternative. 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 1). Only those elements that are present and potentially affected are described and brought forth for detailed analysis.

Table 1. Programs, Resources, and Uses (Including Supplemental Authorities).

Programs, Resources, and Uses (Including Supplemental Authorities)	Potentially Affected?	
	Yes	No
Access and Travel		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

Programs, Resources, and Uses (Including Supplemental Authorities)	Potentially Affected?	
	Yes	No
Fire/Fuels Management	X	
Floodplains		X
Forest and Rangelands		X
Geology and Minerals		X
Law Enforcement		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
Socio-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		X
Wildlife: Terrestrial - Sensitive, Threatened, or Endangered	X	
Wildlife: Migratory Birds	X	
Wildlife: Terrestrial	X	

Air Quality

AFFECTED ENVIRONMENT.

The proposed action area (Eagle County) has been described as an attainment areas according to the Colorado Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). An attainment area is an area where ambient air pollution amounts are determined to be below NAAQS standards.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. It is anticipated that the proposed action would not produce adverse effects to air quality. Vehicle and equipment exhaust emissions would be short-lived and localized. No mitigation is required or recommended.

Environmental Effects of the No Action Alternative. Under the no action alternative, air quality would likely persist under present conditions.

Cultural Resources

AFFECTED ENVIRONMENT.

A records search of the general project area, and a Class III field inventory of the Area of Potential Effect (APE), as defined in the National Historic Preservation Act (NHPA), was conducted by Flattops Archaeological Consultants, a Colorado BLM permitted cultural resource contracting firm (reference CRVFO CRIR 15415-7). The total APE is 834 acres of which, 196 acres will be hydro-axed and 638 acres will be thinned/cut by hand. Within the hydro-axe area, 84 acres have been previously inventoried and 112 acres were inventoried specifically for this project. Within the hand thinning area a total of 198.5 acres has been previously inventoried of the 638 acres. No additional inventory will occur in the hand-thinning area. During the Class I for the project, 41 isolated finds, seven prehistoric sites, three historic sites, and one paleontological site have previously been recorded within a one-mile radius of the project area; none of the previously recorded sites or isolated finds are located within the hydro-axing boundary of the current project area. Seven isolated finds and one site was previously documented in the hand-thinning portion of the project area. The site (5EA2639) is a prehistoric open lithic scatter that is not eligible for the NRHP.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. During inventory specifically for this project, one new prehistoric site (5EA3207), one new historic isolated find (5EA3208), and one new prehistoric isolated find (5EA3209) were recorded during the course of the project. The isolated finds do not satisfy the criteria for eligibility for inclusion on the National Register of Historic Places (NRHP) and is recommended not eligible; no further work is recommended. The site, 5EA3207 is a prehistoric open lithic scatter located on a small knoll that has a vein of knappable white quartzite chunks and cobbles. The site is a sparse scatter of white quartzite flakes (30-40 flakes) and quartzite tested cobbles (10 cobbles). No features or diagnostic artifacts were identified. The site has been field evaluated not eligible for inclusion on the NRHP; no further work is recommended for these sites. Since all cultural resources have been identified as not eligible for the NRHP they would not be affected by project implementation. If design criteria are followed, the proposed action has a finding of ***no historic properties affected*** for the Deer Pen West Vegetation Treatment Project. This undertaking does not exceed any of the review thresholds listed in Part VIII (C) (2) of the Protocol.

Design criteria for the hand thinning area that mitigate impacts to cultural resources are incorporated in the Proposed Action and Project Design Features. This is in concurrence with the State Historic Preservation Officer.

Cultural Resource Mitigation:

- 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 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.
- 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 roller chopper, aerator treatment, or other ground disturbing equipment.

Environmental Effects of the No Action Alternative: Under this alternative vegetation would not be cut and no ground disturbance would occur. This would lessen the potential to expose buried cultural resources as well as lessen the potential for indirect effects from illicit collection or vandalism as well as reduce potential cumulative impacts on cultural resources.

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 areas 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 CONSEQUENCES.

Environmental Effects of the Proposed Action: 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 September 28, 2015. No concerns or comments were received regarding this project. No areas of concern to Native American tribes were identified during project inventory or during tribal consultation.

Environmental Effects of the No Action Alternative: Under this alternative, vegetation would not be cut 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 potential cumulative impacts.

Fire/Fuels Management

AFFECTED ENVIRONMENT.

The proposed project area is within Fire Management Unit (FMU) #C-140-03. Fuel treatment considerations for this unit are as follows:

- Fire and non-fire fuels treatments may be utilized to ensure constraints are met or to reduce any hazardous effects of unplanned wildland fire.
- Try to concurrently achieve fire protection and resource benefits, when possible.

Applicable prescriptive vegetation treatment goals for this FMU include:

- Reduce hazardous fuel loading and the risks of wildland fire escaping public lands.
- Maintain or create diverse seral stages and improve herbaceous understory in mixed mountain shrublands/oakbrush vegetation types.
- Maintain a diversity of vegetation types and vegetation cover.
- Maintain or restore shrublands by reducing the encroachment of pinyon-juniper woodlands in shrub and sagebrush communities.
- Reduce the risks of large-scale fires in critical watershed areas.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. The proposed action is consistent with the fire management plan. Fire behavior would be decreased as a result of reduced fuel loading and continuity. Future natural fires would likely be less extensive and smaller in size. Smaller wildfires would be easier to manage, reducing the risk to multiple natural resources, private

lands, private withholdings, physical structures associated with right-of-ways and aesthetic values. The danger of large, uncontrolled wildfires would be slightly reduced under this alternative.

Environmental Effects of the No Action Alternative. The no action alternative could result in higher fuel loading and fire intensity potential in the long-term. Fuel conditions could continue to increase and accumulate beyond levels representative of the natural (historic) fire regime which could increase the burn intensity potential. The risk of a large, uncontrolled wildfire could remain much greater. This would increase the potential for a large runoff and sediment movement event should a wildfire occur in the future.

Plants: Invasive Non-Native Species (Noxious Weeds)

AFFECTED ENVIRONMENT.

A landscape wide inventory has not been completed on the proposed project site. However, infestations of thistle, knapweed, and houndstongue are known to occur adjacent or within the project area. Given the widespread nature of noxious weed infestations throughout the Winter Ridge/Deer Pen area, it is assumed that some level of infestation does exist in the project area.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. Areas of disturbance provide an optimal location for noxious weed establishment and subsequent invasion (Sheley, et. al 2011). The Proposed Action would not significantly impact invasive, non-native species within the project area if project design features are followed.

> ***Mitigation.*** Preventing and controlling noxious weed encroachment depends on early detection (Sheley, et al. 2011). The project area will be monitored for three to five years after work is completed. A spring survey will be conducted to detect weeds early enough to determine an effective control method and to prevent plants from producing seed.

Environmental Effects of the No Action Alternative. Under the no action alternative, vegetation cutting would not take place thus no niche for noxious and invasive species would be created.

Plants: Sensitive, Threatened and Endangered

AFFECTED ENVIRONMENT.

Table 2 includes the list from the U. S. Fish and Wildlife Service (USFWS 2015) for Federally listed, proposed, or candidate plant species, and the Colorado BLM State Director's Sensitive Species List (BLM 2015b) for sensitive plant species, that may occur within or adjacent to the project area and be impacted by the proposed action. The table also summarizes their habitat

descriptions and potential for occurrence in the proposed action area based on known geographic range and habitats present.

Table 2. Special Status Plant Species in Eagle County.

Federally Listed, Proposed or Candidate Plant Species		
Species	**Habitat**	**Potential for Occurrence**
Ute ladies'-tresses orchid (*Spiranthes diluvialis*) Threatened	Habitat for this threatened species is found in seasonally flooded or subirrigated alluvial soils along streams, lakes or in wetland areas; 4,500 to 7,000 feet.	**No**: There is no riparian/wetland habitat within the project area, thus there is no suitable habitat for Ute ladies'-tresses in the project area.
BLM Sensitive Plant Species		
Species	**Habitat**	**Potential for Occurrence**
Harrington's penstemon (*Penstemon harringtonii*)	Wyoming or mountain big sagebrush or mixed mountain shrub communities on rocky loam or rocky clay loam soils between the elevations of 6,200 to 10,000 feet. Soils usually of basaltic or calcareous nature.	**Yes:** Several populations occur in the immediate vicinity and a few rosettes were observed in sagebrush habitat during a June 25, 2015 field survey of the action area.

There is no suitable habitat for Ute ladies'-tresses within the project area.

Suitable habitat for Harrington's penstemon consists of open sagebrush parks with rocky loam or clay loam soils. Surveys for Harrington's penstemon were conducted on June 25, 2015 within the Deer Pen West project area. A few Harrington's penstemon plants were found in small, scattered patches throughout the project area. In general, soils in the area may be too sandy to provide optimum habitat for Harrington's penstemon.

Harrington's penstemon is a pioneer species which does not compete well with dense vegetative cover. The species cannot survive under a dense canopy of pinyon and juniper trees. Encroaching pinyon pine and juniper trees reduce habitat quality by increasing competition for resources and by altering soil surface chemistry.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. Due to the absence of suitable habitat, the proposed action would have *No Effect* on the threatened Ute ladies'-tresses or any other ESA-listed plant species.

The use of heavy machinery, such as a hydro-axe, could result in crushing or trampling of individual penstemon plants. The hand-cutting is expected to result in very minimal surface disturbance and thus, should result in negligible direct physical damage to penstemon plants in the area. The hydro-axing would not take place when soils are saturated and therefore, surface disturbance created by hydro-axing is also expected to be minimal. Both hydro-axing and hand-cutting would create woody debris or mulch that could bury individual penstemon plants or reduce sunlight reaching the ground which may reduce the vigor and reproductive success of plants. Given the very sparse density of Harrington's penstemon in the project area and the scattered occurrence of pinyon and juniper trees within the occupied habitat, the net effect of either hydro-axing or hand-cutting would be minimal and would potentially affect only a small

proportion of the overall local population. The hand-cutting and hydro-axing would have long-term benefits to Harrington's penstemon by removing encroaching pinyon and juniper trees which compete with the penstemon plants for sunlight and nutrients.

Environmental Effects of the No Action Alternative. Under the no action alternative, no mechanical tree removal would occur. No direct impacts or benefits to special status plant species would result. Habitat conditions for Harrington's penstemon would continue to slowly decline as the density and canopy cover of trees and sagebrush increases.

ANALYSIS OF PUBLIC LAND HEALTH STANDARD 4 FOR SPECIAL STATUS PLANTS.

A Formal Land Health Assessment was conducted in the Burns to State Bridge Watershed in 2006 which included the project area. This watershed was found to be meeting Land Health Standard 4 for threatened, endangered and sensitive plant species. The project may result in short-term losses of a small amount of the BLM sensitive Harrington's penstemon with a long-term improvement in conditions for Harrington's penstemon by removing encroaching trees which compete for sunlight and nutrients. The proposed action would not prevent Standard 4 from being met and may result in an improvement in overall conditions for special status plants.

Plants: Vegetation

AFFECTED ENVIRONMENT.

The Deer Pen West project area lies in rolling terrain on a high mesa southeast of the Colorado River, north and east of the Bull Gulch ACEC/WSA and west of Winter Ridge. Elevations range from 6,800 to 7,600 feet. Vegetation in the project area is determined more by variations in slope, soil depth and soil texture than variations in elevation. The project area consists of gently sloping basins and swales dominated by Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*) interspersed with rocky knolls and steeper drainages dominated by pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*). Pinyon and juniper trees are encroaching into the sagebrush parks and are already at an advanced stage with many trees over 6 feet tall. A few clumps of Gambel oak are found on mesic, north-facing slopes.

Vegetation in the sagebrush areas consist primarily of Wyoming big sagebrush and long-flowered rabbitbrush (*Chrysothamnus depressus*), with an understory comprised mostly of prairie junegrass (*Koeleria macrantha*), western wheatgrass (*Pascopyrum smithi*), needle-and-thread (*Hesperostipa comata*), cryptantha (*Cryptantha* spp.), spiny phlox *(Phlox hoodii*) and rayless tansyaster (*Machaeranthera grindelioides*).

Vegetation in the mature pinyon and juniper stands consist primarily of pinyon pine and Utah juniper with a sparse understory of mat penstemon (*Penstemon cespitosa*), bottlebrush squirreltail (*Elymus elymoides*), bluegrass (*Poa* spp.), and spearleaf stonecrop (*Sedum lanceolatum*). Cheatgrass (*Bromus tectorum*) occurs in scattered patches along the road on the southern boundary of the project area and in some stands of pinyon and juniper on knolls or drainage slopes that have been used as livestock or big game loafing spots.

Sagebrush shrublands and pinyon-juniper woodlands exist in a dynamic equilibrium characterized by cycles of invasion and dieback. These cycles may be driven by fire, insect and disease infestations, grazing, and climate patterns. Pinyon-juniper woodlands tend to expand into sagebrush habitat during periods of wetter climatic conditions, during long intervals between fire or other natural disturbances, or as a result of heavy grazing which reduces competition from the grass and forb component (Eisenhart 2004). Overall climatic conditions of the 20th and 21st century have been wetter than average and thus, conducive to tree establishment throughout the Southwest (Floyd, et. al 2004).

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action.

The proposed action would result in removing pinyon pine and juniper trees within the project area. Where these trees have encroached into sagebrush shrublands, they are beginning to suppress grass and forb growth under the tree canopy. The removal of competition from the encroaching trees should promote an increase in the cover of grasses, forbs and shrubs in the area. Where the trees naturally occur on rocky knolls, the soils are not conducive for supporting a sagebrush/grassland community and in these sites cutting the trees would result in a less dramatic increase in understory vegetation. In the long-term, total vegetative canopy and ground cover should remain the same or increase following treatment.

In the areas identified for hand-cutting, pinyon and juniper trees would be cut and lopped with chainsaws which should result in minimal soil disturbance and therefore, should create negligible damage to any non-target plants in the area. Some plants may be buried by the downed trees.

A rubber-tired tractor would be used to pull the hydro-axe or other mulching equipment. No hydro-axing would occur when the soils are saturated, so surface disturbance and damage to non-target vegetation would be minimized. The woody mulch created by the hydro-axe would bury some herbaceous plants in the vicinity of the trees which may result in some mortality. This loss of vegetation would be temporary. As the mulch decomposes, there would be an increase in herbaceous vegetation due to reduced competition for light and moisture by removing the encroaching trees.

> ***Mitigation.*** The treatment will be monitored to assess vegetative responses, particularly changes in cheatgrass cover. Adaptive management will be applied to future projects to minimize the risk of cheatgrass expansion.

Environmental Effects of the No Action Alternative. Under the no action alternative, no mechanical tree removal would occur. No impacts or benefits to vegetation would result. As the pinyon-juniper trees increase in size and density, the project area would become more dominated by trees with a corresponding decrease in shrubs, grasses and forbs.

ANALYSIS OF PUBLIC LAND HEALTH STANDARD 3 FOR PLANT COMMUNITIES.

A Formal Land Health Assessment was conducted in the Burns to State Bridge Watershed in 2006 which included the project area. The general area was found to be meeting Standard 3 for

healthy plant and animal communities but with certain issues noted. These issues were related primarily to sagebrush communities that were decadent or dense with shrubs and with fewer grasses and forbs than expected. Encroachment of pinyon and juniper trees into sagebrush shrublands was also causing a downward trend in land health conditions. The proposed action would change the composition of the vegetative community by removing trees and temporarily reducing the canopy cover of sagebrush but would maintain or increase overall canopy and ground cover as understory vegetation becomes established in the area formerly occupied by trees. The action would result in maintaining the land health standard.

Livestock Grazing Management

AFFECTED ENVIRONMENT.

The project area overlaps with portions of the Deer Pen (#08616), Castle Individual (#08609) and the River/Catamount (#08605) grazing allotments.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. Grazing exclusion is not requested as part of the proposed action so short term negative impacts to the livestock grazing resource are expected to be negligible. Any short-term negative impacts would be outweighed by an increase in herbaceous vegetation production resulting in greater livestock forage over the long-term. No increase in AUMs is authorized as a result of an increase in forage.

Environmental Effects of the No Action Alternative. The increase of juniper cover and resulting reduction of herbaceous vegetation production would be expected to incrementally reduce livestock forage over the long-term.

Visual Resources

AFFECTED ENVIRONMENT.

Lands administered by BLM CRVFO in the project area are classified as Visual Resource Management (VRM) Class II. 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 II. The objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The project area contains variety of landscape character types and varying degrees of alteration from human activities. It consists mainly of meadows, terraces, foothills, and steep mountain slopes. Topography varies from relatively flat openings, to steep foothills rising to steeper hills

in the background. Numerous ephemeral drainages, gulches, and spring feed drainages dissect the landforms adding to the variety of the topographic texture. The area is characteristic of agricultural land, scattered rural residences, transportation corridors, utilities, and naturally appearing wilderness study areas. Vegetation consists of open meadows, sagebrush flats, and pinion juniper communities.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. Vegetation 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 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. 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.

Environmental Effects of the No Action Alternative. The existing landscape character would be maintained and VRM objectives would be met.

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 7 soil map units occur within the proposed project boundary (NRCS 1992). The NRCS soil map unit descriptions (NRCS 2015) are provided below for the four dominant soils:

- Almy loam (7) – is a deep, well-drained soil found on fans and uplands at elevations ranging from 6,000 to 7,800 feet and on slopes of 12-25 percent. This soil was formed in alluvium derived from calcareous redbed sandstone and shale. Surface runoff for this soil is medium and the water erosion hazard is moderate.
- Cushool fine sandy loam (23) - This component is found on hills with slopes 12 to 25 percent. The parent material consists of alluvium derived from sandstone and shale. The natural drainage class is well drained. Surface runoff is medium and the water erosion hazard is slight to severe.
- Forelle-Brownsto complex (44) - is found primarily on mountains and mesa side slopes with 12-25% slopes. This map unit is described as having rapid runoff characteristics and prone to moderate water erosion.
- Tanna-Pinelli complex (103) - is found on fans and valley sides at elevations ranging from 6,500 - 8,300 feet and on slopes of 12 to 25 percent. The Tanna soil is moderately deep, well drained and is derived from alluvium and residuum. The Pinelli soil is deep,

well drained and is derived from sedimentary alluvium. Runoff for this soil complex is rapid and the water erosion hazard is moderate.

Soil health was evaluated in 2006 during the Burns to State Bridge Land Health Assessment. BLM staff concluded that soils were meeting land health standards throughout the project boundary, with slight to moderate departures from expected conditions (BLM 2008). Transect data pertinent to the project area indicated 30% bare ground which was a slight to moderate departure from the 10-20% range that would be expected for the site (BLM 2008). Pinyon-Juniper encroachment was especially noticeable for the Deer Pen area and can lead to less grass and forb production and ultimately reduced ground cover (BLM 2008).

ENVIRONMENTAL CONSEQUENCES.

Proposed Action. As mechanical treatments are employed to reduce pinyon-juniper cover, direct soil impacts include soil disturbance or loss, and surface compaction. Direct impacts are expected to be limited in scale and short-term in duration due to limited hydro-axe or other heavy equipment treatment and the minimally invasive hand-cutting process. Rubber tired equipment would minimize soil compaction. Overall, soils would be largely protected, post-treatment, as woody debris would intercept rain as well as existing grasses, forbs, and shrubs.

Mitigation.

- Minimize surface disturbance on slopes greater than >30% and fragile soils.
- Minimize surface disturbance to intermittent stream channels.
- Minimize the number of crossings of stream channels with heavy equipment. Choose appropriate low-angled crossings to reduce impacts to the stream banks.

No Action Alternative. Under the no action alternative, present soil erosion rates could increase as pinyon-juniper canopies further encroach the area and out-compete soil stabilizing grasses, forbs, and shrubs.

ANALYSIS OF PUBLIC LAND HEALTH STANDARD 1 FOR UPLAND SOILS.

Based on the Burns to State Bridge Land Health Assessment, BLM staff concluded that soils are meeting Standard 1 (BLM 2008). Implementation of the proposed action is not anticipated to degrade soil health from current conditions.

Wastes: Hazardous or Solid

AFFECTED ENVIRONMENT.

Implementation of the proposed activities would require the use of fuel and lubricants to operate chainsaws and hydro-axe equipment.

ENVIRONMENTAL CONSEQUENCES.

Proposed Action. Fuel and lubricants would be stored in appropriate containers and proper handling should prevent spills or leaks. Due to the relatively small amount of fuel and lubricants involved to implement the project, environmental impacts would be negligible.

No Action Alternative. Under the no action alternative there would be no fuel or lubricants present.

Wild and Scenic Rivers

AFFECTED ENVIRONMENT.

The Final Wild and Scenic Rivers Suitability Report in February 2014 found the Colorado River – State Bridge to Dotsero eligible for inclusion in the National Wild and Scenic River System, but has deferred a suitability determination. The BLM will manage the river segment to protect its free flowing condition, water quality, tentative classification, and outstandingly remarkable values (ORVs). The preliminary classification is Recreational because of a road and railroad. The ORVs are Scenic, Recreational, Wildlife, and Botanic.

Scenic. This area was classified as Visual Resource Management (VRM) Class II in the Colorado River Valley Field Office RMP for its scenic qualities (outstanding scenic qualities tied to the unique and diverse topography, the sharp contrasting colors, and the unique geologic forms adjacent to the river) and to maintain the natural landscape on public lands adjacent to the river and along the Colorado River Road. This segment runs adjacent to the Bull Gulch Wilderness Study Area. Outside of the railroad and County Road this segment contains few cultural modifications.

Recreational. This entire segment was designated a Special Recreation Management Area in the Colorado River Valley Field Office RMP. The ORVs for this segment include floatboating. Recreation along this corridor attracts visitors both within and beyond the region. Adjacent destination tourism markets (Vail and Aspen) provide visitors with various opportunities such as floatboating activities, such as fishing, canoeing, kayaking, and rafting.

Wildlife. Data provided by CPW identifies this segment as habitat for river otter. River otter is a Colorado-listed threatened species. River otters were extirpated in Colorado until 1976, when the CPW began re-introducing river otters into major waterways, including the Colorado River between State Bridge and Catamount. Recent surveys conducted by the CPW also found signs of otters (scats and tracks) in this segment of the river. Therefore, this segment is considered to be occupied by river otters.

Botanic. This segment of the river supports several significant riparian plant communities recommended by the CNHP as a potential conservation area (B3 for high biodiversity significance). This segment of the river contains two unique occurrences of silver buffaloberry (*Shepherdia argentea*), which CNHP considers critically imperiled or rare within the state (G3G4/S1), and two occurrences of a (G4/S2) Rocky Mountain juniper/red-osier dogwood

community that is imperiled within the state. There is also a community of the state-vulnerable (G3/S2) river birch/mesic grasses/forbs (*Betula occidentalis*/mesic forbs and *Betula occidentalis*/mesic graminoids).

ENVIRONMENTAL CONSEQUENCES.

Proposed Action. The proposed action would not affect water quality, the free flowing condition of the river segment, or the tentative classification. Since the project is upland from the river, it would not affect the recreational ORV. The Visual Resource and Recreation specialists analyzed that there would not be an impact to those resources from the proposed action. The proposed action would occur entirely above the rim of the mesa. No debris or sediment from the project is expected to move down to the river's edge. The proposed action would have no impact on the botanical ORVs (i.e., riparian plant communities) along the banks of the Colorado River.

No Action Alternative. The No Action Alternative would not have any impact to the free flowing condition, water quality, tentative classification, or ORVs of the Colorado River.

Wilderness

AFFECTED ENVIRONMENT.

The CRVFO finalized a wilderness characteristics assessment for its ongoing RMP revision in March 2013. The assessment determined that the Bull Gulch Wilderness Study Area (WSA) Contiguous Unit (CO-070-429), located northeast of the Bull Gulch WSA, did not have wilderness characteristics (BLM 2013). The Wilderness Society (TWS) submitted a report to the CRVFO in July 2014 proposing that the Bull Gulch WSA Contiguous Unit meets the criteria in BLM Manual 6310 for lands with wilderness characteristics (TWS 2014). In response to this new information, the CRVFO conducted an internal and field review in August 2014. The *2014 Bull Gulch WSA Contiguous Unit Lands Managed for Wilderness Characteristics Inventory* (BLM 2014b) concluded that a portion of the Bull Gulch WSA Contiguous Unit, including the proposed action project area, does have wilderness characteristics of naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation. The area's size is less than 5,000 acres, but is adjacent to the Bull Gulch WSA, and therefore meets the size criteria. The area also has a supplemental value of habitat for the greater sage-grouse, which is a special status species for the BLM.

ENVIRONMENTAL CONSEQUENCES.

Proposed Action.

Opportunities for Solitude. Elements influencing opportunities for solitude may include size, configuration, topographic and vegetative screening, and ability of the visitor to find seclusion. It is the combination of these and similar elements upon which an overall impact to solitude must be considered.

The proposed action would reduce vegetative screening by removing pinyon and juniper trees from the sagebrush shrublands within the project area. However, the configuration of the area, topographic screening and the general remoteness of the area remain unchanged. The remaining sagebrush vegetation would also still provide screening at a distance. Considering all the elements that influence solitude, a visitor would still have the same opportunity to avoid sights, sounds, and evidence of other people in the area.

There would also be a loss of opportunities for solitude for the periods of time that mechanical equipment or fire crews would be in the project area removing trees.

Primitive and Unconfined Type of Recreation. When considering whether or not an area offers an outstanding opportunity for a primitive and unconfined type of recreation, the BLM considers those activities that provide dispersed, undeveloped recreation which do not require facilities, motor vehicles, motorized equipment, or mechanized transport. This area has been managed for dispersed, undeveloped recreation activities since the signing of the 1997 Castle Peak Final Travel Management Plan. This action is consistent with management direction authorized by that RMP amendment. In conclusion, the proposed action would not change the availability to participate in locally popular opportunities for a primitive and unconfined type of recreation which include hunting, hiking, horseback riding or sightseeing.

Naturalness. Naturalness concerns the varying degrees of human modification to the existing landscape. The Deer Pen area in general has been modified by roads, trails, and livestock developments. A majority of those natural disturbances were excluded through boundary adjustments on the portion of the Bull Gulch WSA Contiguous Unit found to contain wilderness characteristics.

This project would remove the overstory of encroaching pinyon and juniper trees but the sagebrush shrublands would remain. Based on the analysis of previous pinyon-juniper treatments in the area, the treatment area would incur short-term impacts to the existing level of naturalness. These include vehicle tracks from the equipment in the soil and the evidence of tree debris.

Three design features will help reduce impacts from motorized vehicular equipment. They include:

- No new motorized vehicle routes are authorized to be constructed as a result of the proposed action.
- If motorized vehicle use or equipment create worn spots in vegetation or soils, the locations will be rehabilitated (e.g., covered with woody material or seeded).
- Wheeled motorized equipment will not be operated when conditions are muddy or the soil moisture is high enough for the vehicles to leave ruts over 4.0 inches deep.

The vehicle tracks would be expected to last for about a year until rain and snow wash away the tire tracks.

The trees that would be mechanically removed would be shredded into small pieces and spread by the blades, but mulch piles would occur for bigger trees. Until the tree pieces weather and grey, they would be noticeable when walking through the treatment area. The hand-cut trees

would not have a mulch pile, but the scattered limbs would have dead, brown needles that would be visible for about 1-2 years. Keeping the scattered limbs below the height of the sagebrush would reduce the visibility of the dead limbs.

Long-term, the area would look like a sagebrush shrubland that is a common and characteristic vegetation type in the region. The area would retain its existing level of naturalness and appear to have been affected primarily by the forces of nature, with the habitat treatment substantially unnoticeable.

Supplemental Value - Habitat for the Greater Sage-Grouse. Natural successional processes have been disrupted and pinyon-juniper woodland now occupy an area historically used by greater sage-grouse. Restoration through natural processes would require lengthy periods of time. Natural successional processes also may not occur leading to further ecological departure and long-term impacts to the local greater sage-grouse population. The proposed action would most quickly and securely restore vegetative communities to the closest approximation of what is considered to be the natural range of conditions.

Environmental Effects of the No Action Alternative. The No Action Alternative would not ensure restoration of the sagebrush shrublands that were historically in the area and have been disrupted by pinyon-juniper encroachment. The naturalness of the area would not be temporarily affected, but the project area would not be in the same natural state it has historically been previous to pinyon-juniper encroachment. In addition, there would be no short-term effects to solitude as no treatment would occur.

Wildlife: Migratory Birds

AFFECTED ENVIRONMENT.

The Migratory Bird Treaty Act (MBTA) provides protections to native birds, with the exception of certain upland fowl managed by state wildlife agencies for hunting. Within the context of the MBTA, migratory birds include non-migratory resident species as well as true migrants. For most migrant and resident species, nesting habitat is critical for supporting reproduction in terms of both nest sites and food. Also, because birds are generally territorial during the nesting season, their ability to access and utilize sufficient food is limited by the quality of the occupied territory. During non-breeding seasons, birds are generally non-territorial and able to feed across a larger area and wider range of habitats.

The project area provides cover, forage, breeding, and/or nesting habitat for a variety of migratory birds that summer, winter, or migrate through the area. Migratory bird species that are federally listed or classified by the BLM as sensitive species are addressed in the Wildlife: Sensitive, Threatened, and Endangered Species section of this EA.

BLM Instruction Memorandum No. 2008-050 provides guidance toward meeting the BLM's responsibilities under the MBTA and the Executive Order 13186. The guidance directs Field Offices to promote the maintenance and improvement of habitat quantity and quality and 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 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* (USFWS 2008) is the most recent effort to carry out this mandate. The CRVFO is within the Southern Rockies/Colorado Plateau Bird Conservation Region 16.

The project area includes the following plant communities and potentially associated migratory bird species.

Pinyon-juniper Woodlands. Pinyon and juniper trees provide food, cover and nest sites for numerous migratory birds. Species on the Birds of Conservation Concern (BCC) list that occur in the CRVFO and are associated with pinyon-juniper woodlands include the pinyon jay (*Gymnorhinus cyanocephalus*), juniper titmouse (*Baeolophus ridgwayigra*) and Ferruginous Hawk *(Buteo regalis)*. Other migratory species associated with this plant community within the CRVFO include the broad-tailed hummingbird (*Selasphorus platycercus*), black-chinned hummingbird (*Archilochus alexandri*), Say's phoebe (*Sayornis saya*), ash-throated flycatcher *(Myiarchus cinerascens)*, gray flycatcher (*Empidonax wrightii)*, Townsend's solitaire (*Myadestes townsendi*), American robin (*Turdus migratorius*), Western bluebird *(Sialia Mexicana)*, mountain bluebird (*S. currucoides*), bushtit *(Psaltriparus minimus)*, blue-gray gnatcatcher (*Polioptila caerulea*), plumbeous vireo (*Vireo plumbeus*), Western scrub-jay (*Aphelocoma californica*), Clarks's nutcracker (*Nucifraga columbiana*), black-throated gray warbler (*Dendroica nigrescens*), Virginia's warbler (*Oreothlypis virginiae*), chipping sparrow (*Spizella passerina*), lesser goldfinch (*Spinus psaltria*) and house finch (*Haemorhous mexicanus*). Winter visitors to pinyon-juniper habitats include the Cassin's finch (*Carpodacus cassinii*), a BCC species, which typically nests in montane and subalpine forests, though occasionally nests in pinyon-juniper woodlands.

Sagebrush Shrublands. Sagebrush and the associated native perennial grasses and forbs provide food, cover and nest sites for migratory birds. Sagebrush obligates that potentially occur in the CRVFO include the sagebrush sparrow (*Artemisiospiza nevadensis*), sage thrasher *(Oreoscoptes montanus)* and Brewer's sparrow (*Spizella breweri*), a BCC species. Other migratory species associated with sagebrush shrublands within the CRVFO include the western kingbird (*Tyrannus verticalis*), western meadowlark (*Sturnella neglecta*), green-tailed towhee (*Pipilo chlorurus*), vesper sparrow (*Pooecetes gramineus*) and lark sparrow *(Chondestes grammacus)*. Some species are associated with both pinyon-juniper woodlands and sagebrush shrublands, including the Say's phoebe and gray flycatcher.

Mixed Mountain Shrublands. The vegetation of mixed mountain shrublands varies substantially depending on elevation, slope, aspect, and soil. More mesic (moist) sites such as on north-facing slopes and along minor drainages are typically dominated by Gambel's oak and serviceberry, while more xeric (dry) sites such as south-facing slopes are typically dominated by mountain-mahogany, bitterbrush, snowberry, and sagebrush. The dense cover, tall height, and abundant acorns and berries of mesic oak-serviceberry stands provide cover, forage, and nesting habitat for

numerous species including spotted towhees (*Pipilo maculatus*), Virginia's warblers (*Oreothlypis virginiae*), black-headed grosbeaks (*Pheucticus melanocephalus*), black-billed magpies (*Pica hudsonia*), broad-tailed hummingbirds (*Selasphorus platycercus*), green-tailed towhees (*Pipilo chlorurus*), mourning doves (*Zenaida macroura*), Western scrub-jays (*Aphelocoma californica*) and lazuli buntings (*Passerina amoena*).

Raptors. Many raptors forage over wide areas, so even if they aren't known to nest in a specific area, they may still fly over searching for food. Raptors on the BCC list that occur in portions of the CRVO include the golden eagle *(Aquila chrysaetos)*, Bald Eagle *(Haliaeetus leucocephalus)*, Ferruginous Hawk *(Buteo regalis)*, prairie falcon *(Falco mexicanus)*, peregrine falcon *(F. peregrinus)* and flammulated owl *(Psiloscops flammeolus)*. Prairie falcons nest on rocky ledges and cliffs and hunt in grasslands and semi-desert shrublands. Peregine falcons hunt near nest sites and along rivers and lakes, but can be found in nearly any open vegetation community during migration and winter. Flammulated owls typically nest in ponderosa pine and aspen forests, but have been found nesting in mixed forests, and reportedly use old-growth pinyon-juniper woodlands.

A variety of raptors not on the BCC list are known to occur in the CRVO including the American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), red-tailed hawk *(Buteo jamaicensis)*, long-eared owl (*Asio otus*), great horned owl *(Bubo virginianus)*, northern pygmy owl (*Glaucidium gnoma*) and northern saw-whet owl (*Aegolius acadius)*. The northern goshawk (*Accipiter gentilis*), a BLM sensitive species, is an occasional winter visitor to pinyon-juniper woodlands from its nesting habitat in montane and subalpine forests.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. Some migratory bird species use local habitats dominated by sagebrush for portions of their seasonal needs. The removal of encroaching pinyon and juniper trees would help maintain contiguous blocks of sagebrush habitat. Besides improving conditions for greater sage-grouse, increases in distribution and local abundance could be expected for sagebrush sparrows, sage thrashers, and Brewer's sparrows as well as other species that nest and rear young in sagebrush-dominated habitats (Braun 2005).

Any birds remaining in the project area during tree removal work would likely be temporarily displaced to nearby habitats due to machinery, noise, and human presence. Young of the year and adults would be expected to avoid the machinery. Sagebrush would not be treated, but hydro-axes or other heavy equipment could incidentally crush some plants while moving through the project area. Although there is potential for short-term impacts to sagebrush, sagebrush shrubland habitat would increase over time, improving conditions for species using this habitat.

Birds using pinyon and juniper trees in the project area would be displaced to nearby pinyon-juniper woodlands. Most of these trees are younger and encroaching into areas that were historically dominated by sagebrush. The removal of scattered encroaching trees should minimally impact migratory birds, as species selecting pinyon and juniper trees typically prefer mature woodlands that produce seed crops and provide better security.

Raptors should not be affected as an abundance of upland foraging habitat exists in the general area. No raptor nests are known to occur within the treatment area. Suitable raptor perch trees would be removed, but this should have no measurable impact to wide-ranging raptors.

Due to the timing of the project, short-term impacts from machinery, noise, and human presence would be minimal and not affect migratory bird populations.

> ***Mitigation.*** Heavy equipment (e.g., hydro-axe, Fecon Bull Hog) use will be prohibited from May 15-July 15 to avoid the destruction of active nests for Birds of Conservation Concern.

Environmental Effects of the No Action Alternative. No trees would be removed. Pinyon and juniper trees would continue to encroach into sagebrush shrublands. This would benefit migratory birds that select pinyon-juniper woodlands and degrade conditions for migratory birds that select sagebrush shrublands. There would be no short-term disturbances from machinery, noise, and human presence.

ANALYSIS OF LAND HEALTH STANDARDS 3 AND 4 FOR MIGRATORY BIRDS.

Based on the Burns to State Bridge Watershed Land Health Assessment (BLM 2008), most of the landscape was meeting Standard 3 for productive wildlife communities and Standard 4 for migratory birds and raptors. Pinyon and juniper encroachment into sagebrush shrublands was identified as contributing to the reduction in the quality and quantity of sagebrush habitat, and mechanical conifer removal was listed as a tool for sustaining land health. The proposed action is consistent with recommendations made in the Land Health Assessment, and would contribute to improving conditions in the project area that would help maintain the achievement of Standards 3 and 4.

Wildlife: Sensitive, Threatened and Endangered

AFFECTED ENVIRONMENT.

Table 3 summarizes Federally listed, proposed and candidate terrestrial wildlife species potentially occurring in Eagle County (USFWS 2015) and species on the Colorado BLM State Director's Sensitive Species List (BLM 2015a) that may occur in the project area.

Table 3. Special Status Terrestrial Wildlife Species.

Federally Listed, Proposed, or Candidate Terrestrial Wildlife Species		
Species and Status	**Habitat/Range Summaries**	**Occurrence/ Potentially Impacted**

Canada lynx (*Lynx Canadensis)* 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 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 size of a female's home range. Several LAUs include small parcels of BLM lands. There is no mapped lynx habitat in the project area. The project is within the Castle Peak Linkage.	Absent/No
Mexican spotted owl *(Strix occidentalis lucida)* 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
Yellow-billed cuckoo *(Coccyzus americanus)* Threatened	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. There is no proposed critical habitat in the Colorado River Valley Field Office.	Absent/No
Colorado BLM Sensitive Terrestrial Wildlife Species Occurring in the CRVFO		
Species	**Habitat/Range Summaries**	**Occurrence/ Potentially Impacted**
Townsend's big-eared bat (*Corynorhinus townsendii*) Fringed myotis (*Myotis thysanodes)* Spotted bat *(Euderma maculatum)*	Townsend's big eared bats and fringed myotis occur as scattered populations at moderate elevations on the western slope of Colorado. Habitat associations are not well defined. Both bats wil forage for aerial insects over pinyon-juniper, montane conifer and semi-desert shrubland communities. These species roosts in caves, rock crevices, mines, buildings and tree cavities. Both species are widely distributed and usually occur in small groups. Townsend's big-eared bats are not abundant anywhere in its range due to patchy distribution and limited availability of suitable roosting. Spotted bats have been detected in Colorado in ponderosa pine woodlands or montane forests, pinyon-juniper woodlands, and riparian vegetation; over sand and gravel bars; and in open semidesert shrublands. The species needs access to water and suitable cracks and crevices in rocky cliffs for roosting. Limited information is available for this species in the CRVFO. No roosts or hibernaculum for any of these species are documented in the project area.	Possible/No
Rocky mountain bighorn sheep *(Ovis canadensis)*	Rocky Mountain bighorn sheep typically inhabit steep, precipitous mountain and canyon terrain with good visibility and escape terrain. The CRVFO includes the Glenwood Canyon, Derby Creek, Deep Creek and Battlement Mesa herds. Additional herds inhabit nearby USFS lands.	Possible/No

Northern goshawk (*Accipter gentilis)*	Montane and subalpine coniferous forests and aspen forests; may move to lower elevation pinyon-juniper woodlands in search of prey during winter. Preys on small-medium sized birds and mammals. Breeds in coniferous deciduous and mixed forests. Nests are typically located on a northerly aspect in a drainage or canyon and are 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 in Winter/No
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.	Possible/No
Golden eagle *(Aquila chrysaetos)*	Nesting/Roosting: cliffs and trees. Forages widely over open habitats, including grasslands and sagebrush, particularly in areas with abundant rabbits. Suitable mixes of sagebrush and cliffs can support high concentrations. Primary forages include small rodents, hares, and rabbits, and carrion during winter.	Possible/No
Bald eagle (*Haliaeetus leucocephalus*)	Nesting/Roosting: mature cottonwood forests along rivers. Foraging: fish and waterfowl along rivers and lakes; may feed on carrion, rabbits and other foods in winter.	Possible/No
American Peregrine Falcon *(Falco peregrinus 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.	Possible/No
Greater Sage-grouse (*Centrocercus urophasianus)*	Sage-grouse 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. It also 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 present in the northeast part of the Field Office in the Northern Eagle/Southern Routt population. While small (<500 birds), this population 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. The project area includes lands allocated as priority habitat management areas (PHMA) and general habitat management areas (GHMA).	Possible/Yes
Columbian sharp-tailed grouse (*Tympanuchus phasianellus columbian*)	Use a variety of habitats within sagebrush, mountain shrub, and riparian areas. From spring to fall a component of denser riparian or mountain shrub vegetation is important for escape cover. Winter habitat contains a dominant component of deciduous trees and shrubs. In Colorado, leks typically occur in sagebrush.	Absent/No
Black swift *(Cypseloides niger)*	Nest in colonies on vertical rock faces, near waterfalls or in dripping caves. Birds arrive in Colorado in June and take all summer to raise a single nestling. Adults forage widely on aerial insects.	Absent/No

Brewer's sparrow (*Spizella berweri*)	Summers in western Colorado mountain parks and is a spring/fall migrant at lower elevations. Sagebrush obligate with an apparently secure conservation status in Colorado. Primary habitat is mature big sagebrush 1.6-3 ft. tall with low to moderate canopy cover, and habitat patches ≥15 acres. Mesic sites, particularly riparian areas within sagebrush habitats, are also an important primary habitat component.	Possible/Yes
White-faced ibis *(Plegadis chihi)*	Primarily inhabits freshwater wetlands, especially cattail (*Typha* spp.) and bulrush (*Scirpus* spp.) marshes. Rare, non-breeding, summer migrant to western Colorado valleys and mountain lakes. Feeds in flooded hay meadows, agricultural fields, and estuarine wetlands. Breeds in isolated colonies in mainly shallow marshes with "islands" of emergent vegetation.	Absent/No
Midget faded rattlesnake *(Crotalus viridis concolor)*	Found in northwestern Colorado, including western Garfield County. Sagebrush communities with an abundance of south-facing rock outcroppings and exposed canyon walls. Rocky outcrops are essential for cover, variable thermal conditions and hibernation.	Absent/No
Utah milk snake *(Lampropeltis triangulum taylori)*	In Colorado, milk snakes occur in shortgrass prairie, sandhills, shrubby hillsides, canyons and open stands of ponderosa pine in the foothills, pinyon-juniper woodlands, and arid river valleys. *L. triangulum taylori* occurs in west-central Colorado below 6,000 feet elevation.	Absent/No

Canada Lynx. There is no mapped lynx habitat within the project area. The Hydro-axe unit and part of the hand-cutting unit are part of the Castle Peak linkage area, which provides for movement opportunities across shrub-steppe habitats between the Flattops (White River Plateau) east to Castle Peak, across mixed land ownership (USDA 2008). Linkage areas facilitate movements of lynx beyond their home range, such as dispersal, breeding season movements or exploratory movements. Linkage areas may incorporate topographic features that tend to funnel animal movements and may encompass areas of non-lynx habitat (Interagency Lynx Biology Team 2013). The goal of linkage areas is to ensure population viability through population connectivity. They are not "corridors" which imply only travel routes; they are broad areas of habitat where animals can find food, shelter and security. They can be maintained or lost by management activities or developments (USDA 2008).

Greater Sage-grouse. Greater sage-grouse, a sagebrush obligate, are found in areas where sagebrush is abundant, providing both food and cover for breeding, nesting, brood-rearing and wintering. Greater sage-grouse in this area reside or seasonally occupy sagebrush shrublands from the King Mountain/Sunnyside area (north of Burns, Colorado), across Castle Peak (including the Windy Point, State Bridge and Horse Mountain areas) to Wolcott, Colorado.

Table 4. Greater Sage-grouse Habitat/Reproductive Parameters.*

Habitat/Reproductive Parameter	Plant Community Type	Important Dietary/Structural Components
Winter	Use areas are often on windswept ridges, and south to southwest aspect slopes as well as draws with tall, robust live sagebrush. (Braun et al. 2005).	Height (25 to 35 cm) of sagebrush above the surface of the snow in areas used in winter is important, as is canopy cover (10 to 30 percent)

Lekking	Leks are usually located on sparsely vegetated areas including: ridgetops, swales, dry lakebeds, burned areas, grassy meadows, plowed fields, or cleared roadsides may also be used.	Low or absent vegetation canopy (0.04 ha to 4 ha in size) within sagebrush sites.
Nesting	Sagebrush , bitterbrush (*Purshia tridentata* Pursh DC.) and rabbitbrush (*Chrysothamnus* spp.).	Tall (> 18 cm) residual bunchgrass cover, medium height shrubs (40–80 cm).
Brood-rearing	Big and low sagebrush along with riparian habitats.	Key forbs (legumes and composites) and insects, succulent mesic vegetation and sagebrush.
Broodless hens and males (growing season)	Big and low sagebrush along with riparian habitats.	Sagebrush, key forbs (legumes and composites) and insects.

*Reprinted from Journal of Range Management. 57: 2-19 January 2004. (Ihli et al. 1973, Hulet et al. 1986, Gregg et al. 1993, 1994, Barnett and Crawford 1994, Drut et al. 1994a, 1994b, Delong et al. 1995, Sveum et al. 1998a, 1998b, Schroeder et al. 1999, Connelly et al. 2000, Aldridge and Brigham 2002).

Although these birds are found at altitudes of 6000-8500 feet, they are not forest grouse and prefer relatively open sagebrush flats or rolling sagebrush hills. In winter, sagebrush accounts for 100% of their diet. 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 including: windswept ridges, knolls, areas of flat sagebrush, or 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. Cultivated herbaceous, broad-leaved plants (e.g., alfalfa, clover) are important early fall food sources when available.

A wide variety of factors have been identified as potential causes for the decline of greater sage-grouse in Colorado over the last 10-20 years. Evidence suggests that habitat fragmentation and destruction across much of the species' range has contributed to significant population declines over the past century. CPW data shows a decline of approximately 80% statewide over the last 20 years. If current trends persist, many local populations may disappear in the next several decades, with the remaining fragmented population vulnerable to extinction. Northern Eagle County greater sage-grouse numbers have declined and remain relatively low (NESRGSGWG 2004). Vegetation succession, weather, predation, habitat changes (amount and/or quality), fragmentation, land treatments, grazing practices, and unknowns about grouse population cycles have had some effect (NESRGSGWG 2004). Fire suppression and historic overgrazing have likely facilitated the invasion of sagebrush by pinyon-juniper woodlands (Miller et al. 1994). While many factors likely influence productivity, the only factor that has been consistently manageable is habitat (Connelly et al. 1991).

Greater sage-grouse habitat on the CRVFO consists of lands allocated as priority habitat management areas (PHMA) and general habitat management areas (GHMA). PHMA are BLM-administered lands identified as having the highest value to maintaining sustainable greater sage-

grouse populations. Areas of PHMA largely coincide with areas identified as priority areas for conservation in the USFWS's 2013 Conservation Objectives Team report (USFWS 2013). These are areas that have been identified as having the highest conservation value to maintaining sustainable greater sage-grouse populations; they include breeding, late brood-rearing, and winter concentration areas. GHMA are BLM-administered lands where some special management would apply to sustain greater sage-grouse populations. These are areas of seasonal or year-round habitat outside of priority habitat (BLM 2015c).

The Hydro-axe unit is primarily mapped as a PHMA with some GHMA mapped along the northern and western boundaries. The Hand-cutting unit is primarily mapped as PHMA with some GHMA mapped along the northern boundary and a portion of the unit in section 26. There are no leks in the project area.

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action.

Canada Lynx. The project area comprises a relatively small area within the linkage area. Dominant vegetation is pinyon, juniper, and sagebrush, which is not considered lynx habitat, and the units are not mapped as lynx habitat. Although the proposed action would alter the vegetation structure in the project area, connectivity within the linkage area would be maintained as sagebrush would not be treated. Habitat for many alternative prey species potentially using the area would not be reduced, and the expected increase in ground vegetation could result in more cover and food for some small mammals and birds that lynx prey upon. Therefore the proposed action would have *No Effect* on Canada lynx or their habitat.

Greater Sage-grouse. Pinyon and juniper encroachment into sagebrush shrublands is detrimental to greater sage-grouse and other sagebrush-dependent species because it results in the loss, degradation or fragmentation of sagebrush habitat (Gillihan 2006). This expansion is believed to be slowly reducing the effectiveness of the habitat available for greater sage-grouse and creating perching locations for raptors and corvids that prey on greater sage-grouse. Pinyon and juniper expansion has been identified as a problem for greater sage-grouse populations throughout Colorado (NESRGSGWG 2004). The presence of relatively young trees in sagebrush habitat suggests a more recent period of establishment.

The mechanical removal of pinyon and juniper trees from sagebrush shrublands can be an effective management tool for improving greater sage-grouse habitat (Connelly et al. 2000). This technique is the least disruptive to existing sagebrush and the grass/forb understory. Raptor and corvid perching sites would be removed within and adjacent to greater sage-grouse habitat. Historically, sagebrush shrublands did not contain high perches from which raptors and corvids could launch predatory attacks. If birds are in the area, they could be temporarily displaced to adjacent sagebrush shrublands by mechanical equipment, noise, and human presence. Habitat conditions would begin to improve for greater sage-grouse as soon as encroaching trees are removed. Understory vegetation would be expected to gradually improve over time following project implementation. The proposed action would build on other habitat improvement projects implemented in the South Cliffs, Deer Pen, Winter Ridge, Pisgah Mountain and Windy Point

areas, working towards meeting the larger landscape level goal of connecting occupied greater sage-grouse habitats in the Windy Point and Sunnyside areas.

The timing limitation for surface-disturbing activities in greater sage-grouse nesting and winter habitats (CRVFO-TL-11) does not apply to this project because the project is in conformance with the objectives of the RMP, greater sage-grouse would potentially benefit from the project rather than be harmed by it, and surface-disturbing activities would be temporary (BLM 2015b). Areas proposed for treatment that overlap with CPW mapped greater sage-grouse winter range have numerous large, encroaching pinyon and juniper trees, and do not currently provide greater sage-grouse habitat.

Brewer's sparrow. This species selects mature sagebrush, which it uses almost exclusively during the breeding season (GBBO 2010). Because pinyon and juniper encroachment into sagebrush shrublands degrades and fragments Brewer's sparrow habitat over time, the proposed action would be expected to improve habitat conditions for this species.

Environmental Effects of the No Action Alternative. Current conditions and vegetation trends would continue to occur, which over time would benefit species that prefer pinyon-juniper woodlands. Conditions would continue to be degraded for species that prefer sagebrush shrublands.

Greater sage-grouse. No tree removal would occur. No short-term disturbances or benefits to greater sage-grouse would result. Habitat conditions for greater sage-grouse would continue to decline as pinyon and juniper tree density and canopy cover gradually increase. Raptor and corvid perches would be retained and increase over time.

Brewer's sparrow. Pinyon and juniper tree encroachment into sagebrush shrublands would continue to fragment and degrade conditions for this species.

ANALYSIS OF LAND HEALTH STANDARD 4 FOR SPECIAL STATUS TERRESTRIAL WILDLIFE .

Based on the Burns to State Bridge Watershed Land Health Assessment (BLM 2008), most of the landscape was meeting Standard 3 for productive wildlife communities and Standard 4 for special status species and their habitats. Allotments within lynx linkages supported diverse vegetation that provided cover for movement and dispersal, as well as habitat for alternative prey including cottontail rabbits, squirrels, chipmunks, mice, and grouse. Overall the watershed was meeting Standard 4 for greater sage-grouse, but pinyon and juniper encroachment was identified as a potentially serious threat to habitat quality that could impact the achievement of Standard 4 in the future. The proposed action would be consistent with recommendations in the assessment, and contribute to improving conditions in the project area that would help maintain the achievement of Standard 4 for greater sage-grouse and Standards 3 and 4 for other special status species.

Wildlife: Terrestrial

AFFECTED ENVIRONMENT.

Diverse plant communities across the CRVFO support a variety of terrestrial wildlife that summer, winter, or migrate through the area. Wildlife need to move across the landscape for food, cover and in response to seasonal conditions. Human development and activities have fragmented habitat, and in some cases, created barriers to wildlife movement. Factors contributing to wildlife disturbance or degradation and fragmentation of habitat include power lines, pipelines, fences, public recreation use, residential and commercial development, vegetation treatments, livestock and wild ungulate grazing, oil and gas development, fire suppression, roads and trails.

Big Game. Mule deer *(Odocoileus hemionus)* and Rocky Mountain elk *(Cervus elaphus nelsonii)* are recreationally important species that occur in the project area. BLM managed lands provide a large portion of the undeveloped habitat for big game in Colorado. Mule deer and elk typically occupy higher elevation, forested areas during summer and migrate to lower elevation sagebrush-dominated ridges and south-facing slopes during winter. CPW maintains maps of habitat for big game and other wildlife species. Both units are mapped as mule deer and elk summer and winter range, and the majority of the Hand-cutting unit is mapped as mule deer and elk severe winter range. The northwestern portion of the Hydro-axe unit near the steep slopes above the Colorado River is also mapped as mule deer severe winter range. Winter range is often considered the most limiting habitat type for mule deer, so effective management of these areas is particularly important to the health of deer populations.

Bighorn sheep use the slopes south of the Colorado River in the project vicinity. Most of the northern portion of the Hand-cutting unit and the northwestern portion of the Hydro-axe unit near the slopes above the river are mapped as bighorn sheep winter range. The northern portion of the hand-cutting unit close to the river is also mapped as bighorn sheep summer range.

Other Mammals. Numerous small mammals could reside within the planning area, including mice (*Peromyscus* spp.), woodrats (*Neotoma* spp.), ground squirrels *(Spermophilus* spp.*)*, chipmunks (*Neotamias* spp.), rabbits *(Sylvilagus* spp.), skunks *(Mephitis mephitis)*, raccoons *(Procyon lotor)* and porcupines (*Erethizon dorsatum*). Many of these mammals are prey for raptors and larger carnivores. Larger carnivores expected to occur include bobcats (*Lynx rufus*) and coyotes (*Canis latrans*). CPW has mapped the entire project area as mountain lion (*Felis concolor*) and black bear (*Ursus americanus*) habitat. Mountain lions are most likely to be in the vicinity when mule deer are present. Most of the Hydro-axe unit and a portion of the Hand-cutting unit are also mapped as a black bear summer concentration area. Bats documented in Northwest Colorado that could occur in the CRVFO that are not on the BLM special status species list include pallid bats (*Antrozous pallidus*), big brown bats (*Eptesicus fuscus*), spotted bats (*Euderma maculatum*), silver-haired bats (*Lasionycteris noctivagans*), hoary bats (*Lasiurus cinereus*), California myotis (*Myotis californicus*), Western small-footed myotis (*M. ciliolabrum*), long-eared myotis (*M. evotis*), little brown myotis (*M. lucifugus*), long-legged myotis (*Myotis volans*), Yuma myotis (*M. yumanensis*), big free-tailed bats (*Nyctinomops macrotis*), canyon bats (*Parastrellus hesperus*), and Brazilian free-tailed bats (*Tadarida brasiliensis*).

Gallinaceous Birds. Game birds commonly found in the Burns to State Bridge Watershed include dusky grouse (*Dendragapus obscurus*), ring-necked pheasant (*Phasianus colchicus*) and wild turkey (*Meleagris gallopavo*). The project area is not mapped as turkey range.

Waterfowl. There are no rivers, perennial streams, reservoirs, or ponds in the project area, though a variety of waterfowl use the Colorado River.

Reptiles. Reptile species most likely to occur in the project area include sagebrush lizards (*Sceloporus graciosus*), prairie and plateau lizards *(S. undulatus)*, tree lizards *(Urosaurus ornatus)*, gopher snakes or bullsnakes (*Pituophis catenifer*), and western terrestrial garter snakes (*Thamnophis elegans*). Gopher snakes can be found throughout Colorado in most plant communities, including riparian areas, semidesert and mountain shrublands, pinyon-juniper woodlands, and ponderosa pine and other montane woodlands. Western terrestrial garter snakes occur throughout most of western Colorado, usually below 11,000 feet. Smooth green snakes (*Opheodrys vernalis*) can be present in riparian areas, but in western Colorado, may also be common in mountain shrublands far from water (Hammerson 1999).

ENVIRONMENTAL CONSEQUENCES.

Environmental Effects of the Proposed Action. Many terrestrial wildlife species use sagebrush shrublands and pinyon juniper woodlands. Short-term negative impacts would include mechanical equipment, noise, and human presence during project implementation. Wildlife would likely temporarily disperse to nearby areas during mechanical equipment operation. The removal of encroaching pinyon and juniper trees would improve habitat conditions for wildlife species that use sagebrush shrublands. After tree removal, the cover and composition of forbs and grasses would be expected to increase over time as would sagebrush cover, thereby increasing forage availability for numerous species. Projects designed to benefit greater sage-grouse can also benefit mule deer winter range (Copeland et al. 2014), and the proposed action would be expected to improve conditions for both mule deer and elk. Removing conifers would improve visibility and forage for bighorn sheep. Thermal and hiding cover for mule deer and elk as well as habitat for species selecting pinyon-juniper woodlands is abundant outside of the project area.

Environmental Effects of the No Action Alternative. No trees would be removed. Wildlife would not be temporarily displaced by mechanical equipment, noise, and human presence during project implementation. Pinyon and juniper trees would continue to encroach into sagebrush shrublands in the project area, negatively impacting terrestrial wildlife that select contiguous blocks of sagebrush. Gambel oak growing within and at the edge of sagebrush stands would not be mulched, and palatability for big game would not increase. The continued expansion of pinyon and juniper trees into sagebrush would reduce browse availability for big game, a particular concern on winter and severe winter range (Watkins et al. 2007).

ANALYSIS OF LAND HEALTH STANDARD 4 FOR SPECIAL STATUS TERRESTRIAL WILDLIFE .

Based on the Burns to State Bridge Watershed Land Health Assessment (BLM 2008), most of the landscape was meeting Standard 3 for productive wildlife communities. Pinyon and juniper

encroachment into sagebrush shrublands was identified as contributing to the reduction in the quality and quantity of sagebrush habitat, and mechanical conifer removal was listed as a tool for sustaining land health. The proposed action is consistent with recommendations made in the Land Health Assessment, and would contribute to improving conditions in the project area that would help maintain the achievement of Standard 3 for terrestrial wildlife.

CUMULATIVE EFFECTS.

Wildlife (including special status species). The area covered by the proposed action only comprises a small portion of the watershed. Cumulatively, many of the future actions planned on private and other non-BLM lands may have some undetermined effect on wildlife including special status species habitat. The proposed action would create negligible landscape-level cumulative impacts to wildlife when viewed in conjunction with those activities currently occurring and reasonably certain to occur on adjacent private/other lands. The proposed action would contribute to (1) reversing the effects of many years of sagebrush conversion and degradation by pinyon-juniper woodlands and (2) offsetting some of the development-loss of habitat occurring on private property.

Soil and Water. Cumulative impacts to soil and water resources can occur from existing roads and trails 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, and livestock grazing may also change water infiltration or runoff rates and affect soil and water resources. However, based on the relatively limited land uses 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.

CONSULTATION.

The following stakeholders were contacted.

- Liza Rossi, Species Conservation Biologist, CPW, Steamboat Springs
- Brian Wodrich, District Wildlife Manager, CPW, Eagle North District
- CPW Habitat Partnership Program
- Grazing permittee
- The Wilderness Society
- Wilderness Workshop
- Sean Mullen, Cadastral Surveyor, BLM
- Ute Indian Tribe of the Uintah and Ouray Reservation
- Southern Ute Indian Tribe
- Ute Mountain Ute Tribe
- State Historic Preservation Officer

LIST OF PREPARERS.

Members of the CRVFO Interdisciplinary Team who participated in the impact analysis of the Proposed Action and No Action alternative, development of appropriate mitigation measures, and preparation of this EA are listed in Table 5, along with their areas of responsibility.

Table 5. BLM Interdisciplinary Team Authors and Reviewers.

Name	Title	Areas of Participation
Pauline Adams	Hydrologist	Soil, Water, Air, Geology, Hazardous Waste
Carla DeYoung	Ecologist	Areas of Critical Environmental Concern, Vegetation, Special Status Plant Species, Wetlands and Riparian Zones
Isaac Pittman	Rangeland Management Specialist	Livestock Grazing
Kimberly Leitzinger	Outdoor Recreation Planner	Recreation, Wild and Scenic Rivers, Wilderness
Gregory Wolfgang	Outdoor Recreation Planner	Travel and Access, VRM
Hilary Boyd	Wildlife Biologist	Terrestrial and Aquatic Wildlife (including Special Status Species), Migratory Birds
Erin Leifeld	Archeologist	Cultural Resources
Rusty Stark	Fuels Management Specialist	Fire and Fuels Management
Kristy Wallner	Rangeland Management Specialist	Invasive, Non-Native Species (Noxious Weeds)
Brian Hopkins	Assistant Field Manager	NEPA Compliance

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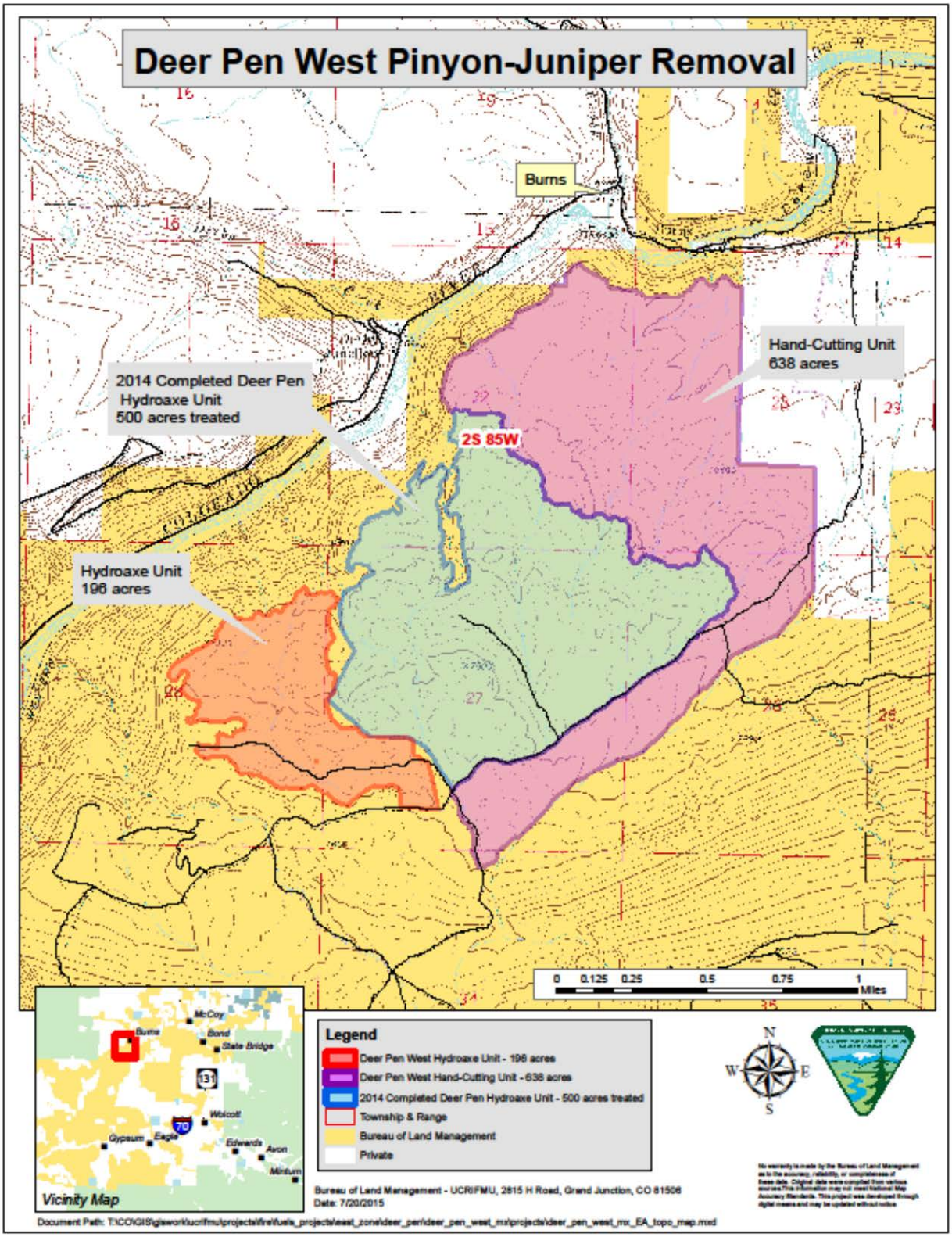
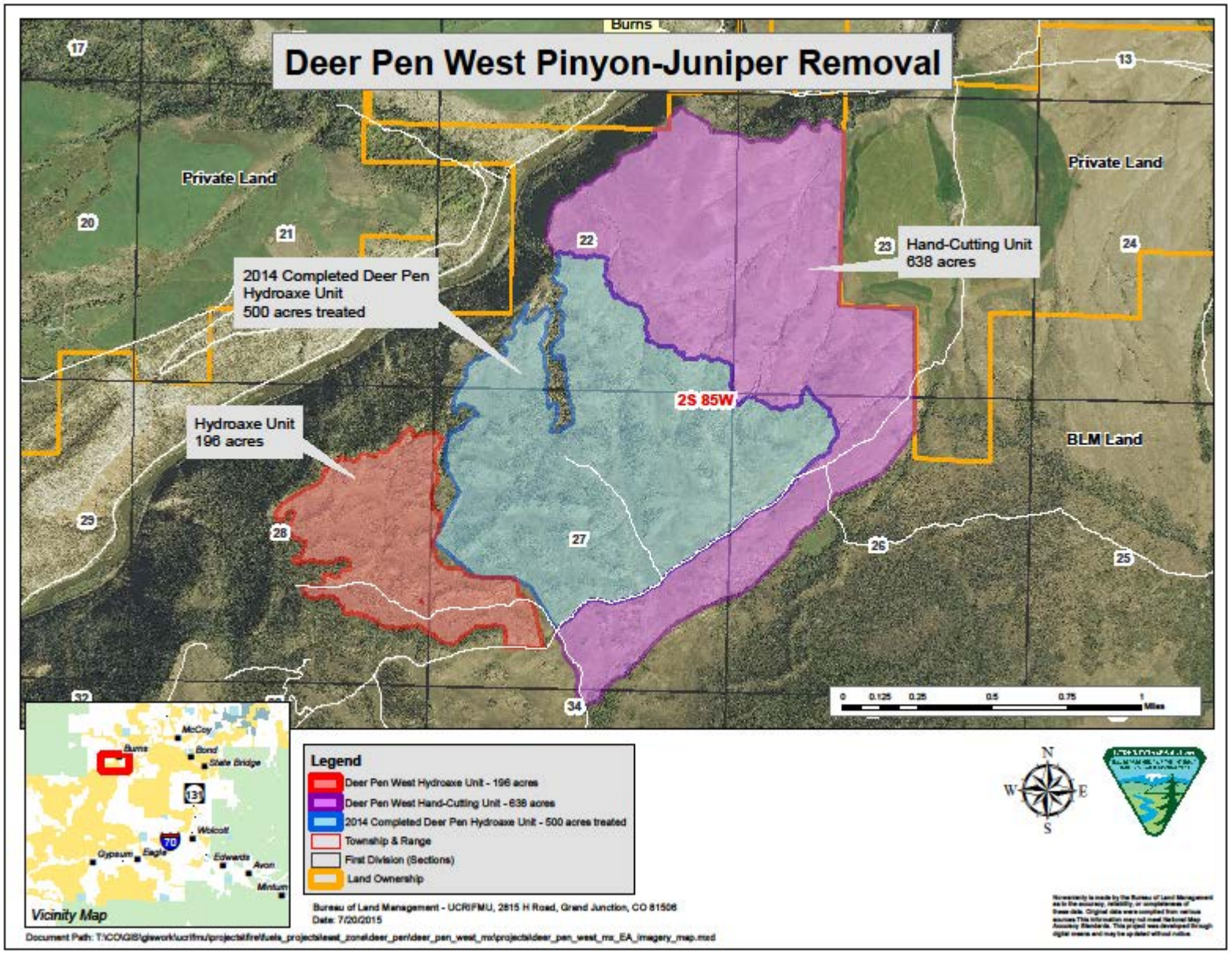
Appendix A - Project Location Maps.




Deer Pen West Pinyon-Juniper Removal
Burns
Private Land
Private Land
BLM Land
2014 Completed Deer Pen Hydroaxe Unit 500 acres treated
Hand-Cutting Unit 638 acres
Hydroaxe Unit 196 acres
2S 85W
17
13
20
21
22
23
24
29
28
27
26
25
32
34
0 0.125 0.25 0.5 0.75 1 Miles
Legend
Deer Pen West Hydroaxe Unit - 196 acres
Deer Pen West Hand-Cutting Unit - 638 acres
2014 Completed Deer Pen Hydroaxe Unit - 500 acres treated
Township & Range
First Division (Sections)
Land Ownership
Vicinity Map
McCoy
Burns
Bond
State Bridge
131
Wolcott
70
Gypsum
Eagle
Edwards
Avon
Minturn
N
W
E
S
Bureau of Land Management - UCRFMU, 2815 H Road, Grand Junction, CO 81506
Date: 7/20/2015
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DECISION RECORD

DOI-BLM-CO-N040-2015-0077-EA

The Environmental Assessment (EA) analyzing the environmental effects of the Proposed Action has been reviewed. The project design, project design features, mitigation measures and stipulations result in a Finding of No Significant Impact (FONSI) on the human environment. Therefore, an Environmental Impact Statement (EIS) is not necessary to further analyze the environmental effects of the Proposed Action.

DECISION.

It is my decision to approve the Deer Pen West Pinyon-Juniper Removal project as described (including project design features) and analyzed in this EA. All actions, mitigation measures, stipulations, standard operating procedures and monitoring as described in the proposed action will be incorporated during project implementation.

RATIONALE.

This decision is in conformance with: (1) wildland fire management and prescriptive vegetation treatment guidance and (2) resource management goals, objectives and decisions as described in the Colorado River Valley Field Office Record of Decision and Approved Resource Management Plan (June 2015). The decision to implement the proposed action with the following mitigation measures was selected as it will best meet the purpose and need for action.

Mitigation for Cultural Resources:

- 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 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.

- 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 roller chopper, aerator treatment, or other ground disturbing equipment.

Mitigation for Invasive Non-Native Species (Noxious Weeds): Preventing and controlling noxious weed encroachment depends on early detection (Sheley, et al. 2011). The project area will be monitored for three to five years after work is completed. A spring survey will be conducted to detect weeds early enough to determine an effective control method and to prevent plants from producing seed.

Mitigation for Vegetation: The treatment will be monitored to assess vegetative responses, particularly changes in cheatgrass cover. Adaptive management will be applied to future projects to minimize the risk of cheatgrass expansion.

Mitigation for Soils:

- Minimize surface disturbance on slopes greater than >30% and fragile soils.
- Minimize surface disturbance to intermittent stream channels.
- Minimize the number of crossings of stream channels with heavy equipment. Choose appropriate low-angled crossings to reduce impacts to the stream banks.

Mitigation for Birds of Conservation Concern: Heavy equipment (e.g., hydro-axe, Fecon Bull Hog) use will be prohibited from May 15-July 15 to avoid the destruction of active nests for Birds of Conservation Concern.

NAME OF PREPARER. Hilary Boyd, Wildlife Biologist

SIGNATURE OF AUTHORIZED OFFICAL.

Karl Mendonca
Field Manager
Colorado River Valley Field Office

11/3/2015
Date