**U.S. Department of the Interior**
**Bureau of Land Management**
**Glenwood Springs Field Office**
**50629 Highways 6 & 24**
**PO Box 1009**
**Glenwood Springs, CO 81602**

# ENVIRONMENTAL ASSESSMENT

**NUMBER:** CO140-2008-084-EA

**CASEFILE NUMBER:** N/A

**PROJECT NAME:** Windy Point Pinyon-Juniper Removal

**LEGAL DESCRIPTION:** T2S, R84W, Sections 24 and 25
T2S, R83W, Sections 17, 18, 19, 20 and 30

**APPLICANT:** BLM and CDOW

**ISSUES AND CONCERNS:**
The project has been initiated to: restore/maintain sagebrush shrublands and enhance wildlife habitat on public lands as identified by:

North Eagle South Routt Greater Sage Grouse Conservation Plan - 2004,
Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance, Field reviews with the Colorado Division of Wildlife.

The project is locally supported by the Colorado Division of Wildlife and the North Eagle South Routt Greater Sage Grouse Working Group

## DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action:
The project area covers approximately 1085 acres of greater sage grouse habitat in the Windy Point area. The proposed action is to improve sage grouse habitat by removing encroaching pinyon and juniper trees from sagebrush stands. Tree size within the project area varies, but most encroaching trees are generally small (up to 10 feet tall and 1-6 inches in diameter). Tree densities vary within the project boundary from ~ 1 tree per acre up to 100 trees per acre. The objective is to target/remove all trees within the project area regardless of size. The treatment would be designed to target only pinyon pine and juniper trees, leaving grasses and forbs relatively undisturbed, thus protecting the soil from erosion and maintaining the natural appearance of the landscape.

Trees would be removed via heavy equipment and hand thinning. Types of heavy equipment would most likely be a hydro-axe or boom mounted drum style brush cutter (see description below). This work would be contracted out by the BLM and would be completed under the supervision of the designated BLM Contracting Officer's Representative (COR) and project inspector. Approximately 195 acres would be cleared for hydro-axing, however due to the amount of rocks in this area, it is possible that only a portion of this 195 acres would be treated with heavy equipment. In low tree density portions of the project area and in scattered rocky areas where heavy equipment can not complete work, trees would be removed via chainsaws. Felled trees will be lopped and branches scattered. If necessary, trees will be cut up and the slash piled in 4' to 6' tall piles and burned later in the fall, winter, or spring when there is snow cover present or sufficient litter and soil moisture to prevent fire spread beyond the piles. Piles will not be placed on known cultural sites. Chainsaw work would be contracted or completed by the Interagency Fire Crew.

Hydro-axing would be conducted in the summer or fall of 2008. Work would be conducted during daylight hours and duration is expected to be no more than 15 days barring unforeseen problems (weather, equipment, etc.). Hand thinning would be conducted during the summer, fall and early winter (before Dec 1) and may encompass a few field seasons.

Photo of the project area.

Mechanical Thinning:
A variety of equipment options are available but the most commonly used in this vegetation and terrain are the hydro-axe mower type device and drum style brush cutters. The hydro-axe machines are essentially a medium to large size tractor with a 6' - 8' hydraulic powered mowing head, similar to a lawn mower, attached to a maneuverable platform on the front, or a track hoe mounted mower head on the extension boom. The machine is capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This treatment creates minimal surface disturbance, however flying debris from this equipment can be thrown several hundred feet away.

The drum style brush cutter mounts to the boom of an excavator (tracked vehicle similar but larger than a back-hoe) or a rubber tired tractor, and are usually 3’ to 8’ wide. The hydraulic powered drum turns on a horizontal shaft and the cutting teeth mounted along the length of the drum cut and shred the vegetation. Unlike the hydro-axe, the drum cutters can be used to cut sub-surface material where stumps and roots are to be removed, however this can cause significant soil disturbance. Certain styles are capable of shredding trees in excess of 5’ in diameter and height is restricted to the height of the boom, typically 20-40’ high. Debris is scattered near the device as it shreds, however material is typically not thrown as far as when using a hydro-axe mower.

Regardless of which specific device is used, the treatment would be designed to target only pinyon pine and juniper trees, leaving grasses and forbs relatively undisturbed, thus protecting the soil from erosion. **Any type of mulching head used for this project would be required to be mounted on a rubber-tired tractor. The use of rubber tired equipment would be required in order to minimize impacts to soils, vegetation, and possible cultural resources**. To protect soil and water quality, operations would not be allowed in muddy conditions. Heavy equipment thinning is relatively expensive compared to burning and hand thinning, but is much more precise than burning. Heavy equipment is especially good where dense stands of pinyon and/or juniper trees have encroached on sagebrush parks, large expanses of brush such as oak or sagebrush, along existing roads or trails.

Photo of hydro-axe/fecon flail removing trees from a sagebrush stand.

No Action Alternative:
Under the no action alternative, no tree removal would be conducted.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:
The use of prescribed fire to remove encroaching trees was considered, but due to the importance of the understory sagebrush vegetation in the area, fire was discounted as a viable option as fire would remove important sagebrush vegetation. Sagebrush and understory herbaceous vegetation in the area is in good condition. The only limiting factor regarding sagebrush dependent species use of the area is the encroachment of pinyon pine and juniper trees.

NEED FOR THE ACTION:
The purpose of the project is to restore/maintain sagebrush habitat continuity in the area and to reduce hazardous fuels. The sagebrush habitats are heavily infested with primarily pinyon pine and some juniper. This encroachment is reducing habitat usability of the area by sage grouse, a BLM Sensitive Species. Removing trees from the project area will allow use of the area by sage grouse and will maintain important sagebrush habitat for a variety of other sagebrush dependant species. Removal of trees would also slow down the conversion of a brushy fuel type to a woodland type which would also reduce the burning intensity in the event of a wildfire.

PLAN CONFORMANCE REVIEW:
The proposed action is subject to the following plan and amendments and has been reviewed for and is in conformance to the plan and amendments (43 CFR 1610.5, BLM MS 1617.3).

Name of Plan: Record of Decision and Resource Management Plan Glenwood Springs Resource Area

Date Approved: 1984 (Revised 1988), Amended in November 1991 - Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement; amended Nov. 1996 - Colorado Standards and Guidelines; amended in August 1997 - Castle Peak Travel Management Plan; amended in March 1999 - Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement; amended in November 1999 - Red Hill Plan Amendment; and amended in September 2002 – Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance.

Decision Page Number and Decision Language:

Terrestrial Habitat Management - Page 18. Objectives - To provide approximately 57,933 animal unit months (AUMs) of big game forage (the amount needed to meet Colorado Division of Wildlife big game population goals in 1988), to improve existing wildlife habitat conditions, and to increase wildlife species diversity.

Fire Management – Chapter IV, Page 26-27 Guidelines:

- Pile burning of mechanically cleared vegetation/debris is acceptable in “A” FMZs.
- Equipment used in vegetation treatments should be washed and weed-free before arriving onsite.
- Except where specific treatments are designed to control or manage vegetation within riparian areas, treatments will be designed to avoid riparian areas. Adequate buffer strips around water courses and drainages may be necessary to protect riparian areas. The extent of the buffer strip depends on a number of factors such as: the slope, the type of treatment, acres treated, current vegetation condition, etc., and will be determined through a site-specific environmental analysis.
- Vegetation treatments conducted on uplands adjacent to the Colorado River will be designed and conducted in a manner that limits potential for soil erosion and sedimentation and increases vegetative ground cover. This includes riparian restoration work, and salt cedar removal, intended to improve habitats. Where erosion potential is high, establish baseline water quality data prior to conducting vegetation treatments and conduct water quality studies until the site is revegetated and soils are stabilized to determine impacts of vegetation treatments on water quality.
- Consider visual qualities in Visual Resource Management (VRM) Class I and II areas where the classification goal is to preserve the landscape character.

Landscape modifications should replicate a natural shape, form, color and texture found in the surrounding area.

- To help maintain the appropriate habitat components on big game ranges, attempt to provide a 40/60 split of forage to cover for mule deer and elk.
- To minimize large losses of key big game winter habitat on Public Lands, limit vegetation changes within localized severe big game winter ranges to 10% of the range per year over a 10 year period.
- Prescriptive treatments with the potential to disrupt visitors, should avoid high use areas and occur outside of high use seasons, such as the fall big game rifle hunting seasons

Livestock Grazing Management – Page 21- Following initial allocation, manipulate 27,800 acres of vegetation on 98 allotments using vegetation manipulation techniques listed in Appendix A (mechanical plant control).

**Standards for Public Land Health**: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards apply to five categories of resource values: 1) upland soils, 2) riparian systems, 3) plant and animal communities, 4) threatened and endangered species including BLM sensitive species, and 5) water quality. Standards describe conditions needed to maintain public land health and relate to all uses of the public lands.

The Glenwood Springs Field Office is in the ongoing process of completing Land Health Assessments on a landscape basis. A Formal Land Health Assessment was completed for the general project area in 2006 (Burns to State Bridge Watershed). This watershed was found to be meeting all land health standards, 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 some encroachment of pinyon-juniper trees into sagebrush parks. In some areas, sagebrush stands were old, overly dense, and lacked diversity and cover of herbaceous species.

Because a standard exists for these five resource categories, the impact analysis must address whether the proposed action or any alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions for that specific parameter. These analyses are located in specific elements listed below.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

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. This environmental assessment (EA) is tiered to the discussion of impacts in EA # CO-140-2001-0051, Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance. It is also tiered to the Draft and Final Environmental Impact Statement, Vegetation Treatment on BLM Lands in Thirteen Western States dated May 1991.

CRITICAL ELEMENTS:

A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a proposed action and alternative(s) on certain critical environmental elements. Not all of the critical elements that require inclusion in this EA are present, or if they are present, may not be affected by the proposed action and alternative (Table 2). Only those mandatory critical elements that are present and affected are described in the following narrative.

In addition to the mandatory critical elements, there are additional resources that would be impacted by the proposed action and alternative. These are presented under Other Affected Resources.

| Table 1 - Critical Elements of the Human Environment | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Critical Element | Present | | Affected | | Critical Element | Present | | Affected | |
| | Yes | No | Yes | No | | Yes | No | Yes | No |
| Air Quality | X | | X | | Prime or Unique Farmlands | | X | | X |
| ACECs | | X | | X | Threatened or Endangered Species* | X | | X | |
| Cultural Resources | X | | | X | Wastes, Hazardous or Solid | X | | X | |
| Environmental Justice | X | | | X | Water Quality, Drinking and Ground | X | | X | |
| Floodplains | | X | | X | Wetlands and Riparian Zones* | | X | | X |
| Migratory Birds | X | | X | | Wild and Scenic Rivers | | X | | X |
| Invasive, Non-native Species | X | | X | | Wilderness | | X | | X |
| Native American Religious Concerns | | X | | X | | | | | |

AIR QUALITY

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

**Environmental Consequences/Mitigation:**

*Proposed Action:* The proposed activities would result in short term localized emissions from chainsaws and mechanical equipment associated with the cutting and removal of trees, dust generation during dry conditions, and smoke associated with burning activities. Pile burning activities would be conducted in accordance with the current State of Colorado Smoke Management Plan and permitted by open burning permits issued by the Colorado Department of Public Health and Environment Air Pollution Control Division. Given the scale, location, and the timing of the proposed activities; it is anticipated that overall impacts to local air quality would be minimal and no additional mitigation is recommended at this time.

*No Action Alternative:* Under the no action alternative, no vegetation clearing activities would occur. This alternative would have no effect on air quality.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

**Affected Environment**: The project area is not within an Area of Critical Environmental Concern.

**Environmental Consequences/Mitigation**: N/A

CULTURAL RESOURCES
*Proposed Action*

**Affected Environment**: A Class III cultural resource inventory (GSFO# 16508-2) was conducted of the proposed action. No historic properties were identified that are eligible or potentially eligible for listing on the National Register of Historic Places.

**Environmental Consequences/Mitigation**: As there are no historic properties identified, no formal consultation with the Colorado State Historic Preservation Officer (SHPO) was needed and a determination of "**No Historic Properties Affected"** was made in accordance with the National Historic Preservation Act (NRHP), as amended (16 USC 470f), National BLM/SHPO Programmatic Agreement (1997), and Colorado Protocol (1998).

There would be no direct impacts to cultural resources from the implementation of the proposed action. However, indirect long-term cumulative impacts from increased access and personnel could result in a range of impacts to known and undiscovered cultural resources in the vicinity of the location. These impacts could range from exposure of previously buried remains to illegal collection, excavation and vandalism. Compliance with the Education/Discovery stipulation should help in alleviating these impacts somewhat.

**No Action Alternative:** This alternative would be neither beneficial nor detrimental to cultural resources.

ENVIRONMENTAL JUSTICE

**Affected Environment**: Review of 2004 data from US Census Bureau indicates the median annual income of Garfield County averages $50,119 and is neither an impoverished or wealthy county. Median annual income of Eagle County averages $59,037 and is not impoverished but is considered a wealthy county. U.S. Census Bureau data from 2006 shows the minority population of Garfield and Eagle County comprises less than 0.6 % of the total population of Colorado[1].

| Garfield County | Eagle County |
|---|---|
| Median Household Income (2004) | Median Household Income (2004) |
| Estimate | Estimate |
| $50,119 | $59,037 |

INVASIVE, NON-NATIVE SPECIES

**Affected Environment:** Weed populations within the project site have been reported as very low from field office personnel. No comprehensive weed surveys have been conducted in the project area, however, due to the widespread nature of weeds in the Glenwood Springs Field Office, it is likely some population level of noxious or invasive weed species are present at the project site.

**Environmental Consequences/Mitigation**

*Proposed Action*: Noxious weed populations are a threat to land health as they contribute to loss of rangeland productivity, increased soil erosion, reduced species richness, reduced wildlife habitat quality, and reduced aesthetic quality. Weeds generally germinate and become established in areas of surface disturbing activities or other human activities such as road construction and maintenance, vehicular traffic, big game and livestock grazing. Soil and vegetation disturbance from the proposed action would create a niche for noxious weeds to become established and spread. However, given that weed populations are low and the project has been designed to improve the overall health of the rangeland, it is expected that weed populations would not increase dramatically within the project area.

Mitigation: Construction equipment associated with the proposed action would be washed before transported to the project site to remove any noxious weed seeds. Monitoring for an increase in weed populations would occur for 3 consecutive years after the project by BLM personnel. BLM would be responsible for treating any infestations.

[1] Source U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, Census of Population and Housing, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report
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*No Action:* Under the no action alternative, surface disturbing activities associated with the proposed action would not take place thereby not creating a niche for noxious and invasive species to become established.

MIGRATORY BIRDS

**Affected Environment:** The project area is comprised primarily of sagebrush and pinyon pine with an understory of native grasses. Some scattered junipers are present. Given the mixes of vegetation, the project area provides cover, forage, and nesting habitat for a variety of migratory birds. Several species listed on the U.S. Fish and Wildlife Service's Birds of Conservation Concern list may be present. Within the pinyon-juniper woodland habitats, the pinyon jay, black-throated gray warbler, and gray vireo may be present. Within the sagebrush habitats the sage sparrow may occur. The sage sparrow is a ground nester that nests in sagebrush. All of the P/J species are tree nesters.

No raptor nests are located within the treatment polygon. Golden eagles and red-tailed hawks likely forage throughout the project area. Nesting habitat for these species is present within the vicinity of the project area.

**Environmental Consequences/Mitigation:**

*Proposed Action:* The removal of encroaching pinyon-juniper trees should result in long-term benefits to sagebrush dependent bird species including the sage sparrow and greater sage grouse. Tree removal will help to ensure the maintenance of contiguous blocks of sagebrush habitat. It is likely that tree cutting by hydro-axe will result in the temporary displacement of some native bird species to adjacent habitats for a short time due to noise associated with treatments and human presence. It is also possible that incidental trampling of ground nesting birds and/or their eggs could occur. However, because work is scheduled after the majority of nesting season, impacts should be minimal and of low potential. Use of hand thinning via chainsaws would have reduced impacts but would still result in some temporary displacement of birds.

The removal of pinyon pine and juniper trees could have some negative impacts to the pinyon jay, black-throated gray warbler, and gray vireo given their preference for pinyon-juniper woodland habitat. Some potential nesting habitat would be lost. However, targeted trees are generally small and scattered within otherwise predominant sagebrush habitats. The removal of scattered encroaching trees should have minimal impact to these migratory bird species. Where pinyon-juniper is more predominant and encroachment is further along, treatment will consist of using a hydro-axe . Where denser pockets of P/J are removed, some potential nest habitat for these species will be lost. The treatments are intended to improve foraging habitat for all species.

Raptor species should not be affected as an abundance of upland foraging habitat exists in the general area. Pinyon-juniper trees to be treated are generally small and scattered and are not suitable for raptor nesting. Some suitable perch trees would be eliminated, but this should have no impact to raptors in the area as an abundance of pinyon-juniper is found in the area to the west.

*No Action*: Under the no action alternative, no tree removal would be conducted. No impacts to migratory birds would result.

NATIVE AMERICAN RELIGIOUS CONCERNS

*Proposed Action*

**Affected Environment:** The Ute tribes claim this area as part of their ancestral homeland. At present, no Native American concerns are known within the project area and none were identified during the inventories. The Ute Tribe of the Uintah and Ouray Bands, the primary Native American tribe in this area of the GSFO, have indicated that they do not wish to be consulted for small projects or projects where no Native American areas of concern have been identified either through survey or past consultations. Therefore, formal consultation was not undertaken. If new data are disclosed, new terms and conditions may have to be negotiated to accommodate their concerns.

**Environmental Consequences/Mitigation:** Although there would be no direct impacts from the proposed action, indirect impacts from increased access and public use in the vicinity of the proposed project could result in impacts to unknown Native American resources ranging from illegal collection to vandalism. Compliance with the Education/Discovery stipulation should help in alleviating these impacts somewhat.

*No Action Alternative:* This alternative would be neither beneficial nor detrimental to cultural resources.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes an analysis on Land Health Standard 4)

**Affected Environment**: According to the latest species list from the U. S. Fish and Wildlife Service (http://mountain-prairie.fws.gov/endspp/CountyLists/COLORADO.pdf), the following Federally listed, proposed, or candidate plant and animal species may occur within or be impacted by actions occurring in Eagle County: Ute Ladies' Tresses (*Spiranthes diluvialis*), black-footed ferret (*Mustela nigripes)*, Canada lynx (*Lynx canadensis*), Mexican spotted owl (*Strix occidentalis*), yellow-billed cuckoo (*Coccyzus americanus*), Uncompahgre fritillary butterfly (*Boloria acrocnema*), razorback sucker (*Xyrauchen texanus*), Colorado pikeminnow (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), and humpback chub (*Gila cypha*).

Specific to the project area, no habitat or occurrence records exist for any federal or state listed species. The project area provides habitat for greater sage grouse, a BLM sensitive species. Although there are no known occurrences of the BLM sensitive plant species, Harrington's penstemon within the project area, the area does provide suitable habitat for this species. In addition, the Colorado River located within 0.6 miles of the project contains three BLM sensitive fishes: flannelmouth sucker, bluehead sucker, and roundtail chub.

**Environmental Consequences/Mitigation:**

*Proposed Action*: Due to a lack of habitat and occurrence records the proposed action would have "**No Effect"** to any listed species or their habitats.

Greater sage grouse:
The proposed removal of pinyon pine and juniper trees would improve habitats for this species. Encroachment of trees is the reason limited use of the area is currently occurring. The proposed use of heavy equipment could result in displacement of birds for a short duration (3-5 days) until the project is completed.

Harrington's penstemon:
Suitable habitat for Harrington's penstemon consists of open sagebrush parks with rocky loam or clay loam soils. Encroaching pinyon pine and juniper trees reduce habitat quality by increasing competition for light and by altering soil surface chemistry. The proposed removal of pinyon pine and juniper trees would help maintain suitable habitat for Harrington's penstemon.

The use of a hydro-ax or brush mower to remove encroaching pinyon and juniper trees should result in minimal surface disturbance and therefore, should create negligible damage to the roots and basal rosettes of the penstemon plants. Flower stalks may be damaged or destroyed by the equipment. Waiting until the flowers have gone to seed would ensure that penstemon plants have the opportunity to reproduce and germinate. The beating action of the equipment may facilitate the dispersal of the seeds and improve soil contact for germination.

A drum-style brush cutter uses a large drum with cutting teeth mounted along the length of the drum that cuts and shreds the vegetation. Unlike the hydro-axe, the drum cutters can be used to cut sub-surface material where stumps and roots are to be removed, however this can cause significant soil disturbance. If this type of equipment is used, some penstemon plants may be uprooted or damaged.

Mitigation**:** In order to ensure that the reproductive capacity of the penstemon plants are not diminished by the proposed action, use of hydro-ax or other heavy equipment would not commence until after the plants have set seed, which is generally in early July.

Flannelmouth sucker, bluehead sucker, roundtail chub:
The removal of encroaching pinyon pine and juniper trees from the sagebrush park would be done with heavy equipment in the form of a hydroaxe and by chainsaw. It is likely that some ground disturbance would result from the use of the hydroaxe. However, the rubber tired equipment should keep ground disturbance and erosion potential to a minimum. Furthermore, work would not be allowed during wet conditions which would minimize rutting and soil displacement. The project should have no detrimental effects on these downstream fishes.

No Action:
Under the no action alternative, no tree removal would occur. No impacts or benefits to special status species would result. Habitat conditions for Greater sage grouse and Harrington's penstemon would continue to decline as the density and canopy cover of trees increases.

**Analysis on the Public Land Health Standard for Threatened & Endangered species**: A formal Land Health Assessment was completed for the area in 2006. The general area was found to be meeting Standard 4 for special status species. The proposed action would benefit greater sage grouse and should contribute to meeting this standard.

WASTES, HAZARDOUS OR SOLID

**Affected Environment:** Implementation of the proposed activities would require the use of fuel and lubricants to operate mechanical equipment and chainsaws. Within the project area are ephemeral drainages and slopes over 30%, which could affect the spread and distribution of contaminants in the event of a spill.

**Environmental Consequences/Mitigation:**

*Proposed Action:* Fuel and lubricants would be stored in appropriate containers and refueling would occur in designated areas. Proposed activities would avoid steep slopes and drainages to minimize the potential for contaminant transport to perennial streams and other negative impacts associated with spills and contaminant distribution. Based on existing slope angles, steep slope and drainage avoidance, and good vegetative cover; it is unlikely that fuel or lubricants would be transported to area drainages or other areas of concern during the event of a spill. It is however recommended that appropriate and timely clean-up procedures do occur in the event of a spill.

*No Action Alternative:* Under the no action alternative there would be no fuel or lubricants present associated with mechanical equipment and chainsaws.

WATER QUALITY, SURFACE AND GROUND (includes an analysis on Land Health Standard 5)

**Affected Environment:** Proposed activities would be located west of the Town of Bond within an unnamed 66,364 acre 6$^{th}$ field watershed. Within the project area are several unnamed ephemeral drainages, some of which are directly tributary to the Colorado River approximately two miles to the northeast. Additionally, the ephemeral Cabin Gulch is located just east of the project area and is also directly tributary to the Colorado River to the northeast.

The State of Colorado has developed *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37) ) that identify beneficial uses of water and numeric standards used to determine allowable concentrations of water quality parameters. The ephemeral drainages mentioned above

are within the Upper Colorado River Basin (Region 12) segment 7a that includes all tributaries to the Colorado River from a point above the confluence with the Blue River to a point below the confluence with the Roaring Fork River.

This segment has been classified aquatic life cold 1, recreation 2, water supply, and agriculture. Aquatic life cold 1 indicates that this water course is capable of sustaining a wide variety of cold water biota. Recreation class 2 refers to waters that are not suitable or intended to become suitable for primary contact recreation. In addition, this segment is suitable or intended to become suitable for potable water supplies and agricultural purposes that include irrigation and livestock use. At this time there are no water quality data available for the ephemeral drainages in and adjacent to the project area.

At this time, the ephemeral drainages in and adjacent to the project area have not been listed on the State of Colorado's *303(d) List of Water Quality Limited Segments Requiring TMDLS* (CDPHE, Water Quality Control Commission, Regulation No. 93) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone or the *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94) that identifies water bodies suspected to have water quality problems.

**Environmental Consequences/Mitigation:**

*Proposed Action:* Proposed treatment activities would remove some vegetation and could alter soil conditions through compaction, displacement, and the development of a hydrophobic soil layer associated with mechanical treatments, foot traffic, and burning activities. These impacts would result in an increase in erosion potential, possible offsite sedimentation, and potential nutrient loading in area drainages. Additionally, there is a potential for contaminants associated with fuel and lubricant spills to reach area drainages.

Soil compaction and displacement are expected to be minimal due to the amount of rock present, the use of rubber tired vehicles and some operations occurring over scattered slash material. Additionally, proposed activities would avoid steep slopes and drainages as much as possible. Hydrophobic soil layers would not likely result from pile burning activities, which would occur over the snow.

Based on the distance of the proposed activities from area drainages, the existing slope angle, and good vegetative cover; it is unlikely that sediment, contaminants, and nutrients would be transported to area drainages. As a result, no site specific mitigation is being recommended at this time besides basic BMPs associated with mechanical and hand treatments and following the burn plan. Any potential negative impacts to water quality would be short duration and very localized.

*No Action Alternative:* The no action alternative would have no impact on existing water quality.

**Analysis on the Public Land Health Standard for Water Quality:** In 2006, the Glenwood Springs Field Office completed the Burns to State Bridge Watershed Land Health Assessment. During the assessment, no drainages within the project area were evaluated. At this time, there is no substantial reason to believe that the proposed action and no action alternative would prevent Standard 5 for Water Quality from being met.

WILDERNESS

**Affected Environment:** There are no designated Wilderness areas, Wilderness Study Areas within the proposed project area. However there is a citizens proposed wilderness areas within the project area known as Pisgah Mountain.

**Environmental Consequences/Mitigation:** The proposed action would not create any negative impacts to wilderness characteristics within the area. Specifically, there will be no long term negative impacts to solitude, naturalness, or opportunities for primitive and unconfined types of recreation.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a analysis on Land Health Standard 1)

**Affected Environment:** According to the *Soil Survey of Aspen-Gypsum Area, Colorado: Parts of Eagle, Garfield, and Pitkin Counties* (USDA 1992), proposed activities would occur on three soil map units: Jerry-Millerlake loams (6 to 25%), Jerry-Millerlake loams (25 to 45%), and Torriorthents-Camborthids-Rock outcrop complex. The majority of the project area and all of the mechanical treatment area is mapped as Jerry-Millerlake loams (6 to 25%). These soil map units are described as having rapid surface runoff and severe water erosion hazard. However, only a small percentage of the project area is on slopes greater than 30% (17°). Following is a brief description of the three soil map units encountered in the project area.

Jerry-Millerlake loams (66) – This soil map unit is found on alluvial fans and valley sides at elevations ranging from 7,500 to 9,500 feet and on slopes of 6 to 25 percent. Approximately 50 percent of this unit is Jerry soil and 40 percent Millerlake soil, with the other 10 percent being a mix of soil types. The Jerry soil is deep, well drained and is derived from sandstone and shale alluvium. Surface runoff is rapid and the water erosion hazard is severe. The Millerlake soil is deep, well drained and is derived from sedimentary rock alluvium. Surface runoff is medium and the water erosion hazard is moderate. Primary uses for this soil map unit include rangeland, pasture, and wildlife habitat.

Jerry-Millerlake loams (67) – This soil map unit is found on alluvial fans and valley sides at elevations ranging from 7,500 to 9,500 feet and on slopes of 25 to 45 percent.

Approximately 50 percent of this unit is Jerry soil and 40 percent Millerlake soil, with the other 10 percent being a mix of soil types. The Jerry soil is deep, well drained and is derived from sandstone and shale alluvium. Surface runoff is rapid and the water erosion hazard is severe. The Millerlake soil is deep, well drained and is derived from sedimentary rock alluvium. Surface runoff is rapid and the water erosion hazard is severe. Primary uses for this soil map unit include rangeland, and wildlife habitat.

Torriorthents-Camborthids-Rock outcrop complex (105) – This soil map unit occurs on south-facing mountainsides, hills, and ridges with slopes ranging from 45 to 95 percent. Approximately 45 percent of this unit is Torriorthents, 20 percent Camborthids, and 15 percent Rock outcrop. The Torriorthents are shallow to moderately deep, well drained, and are derived from sedimentary rock. Surface runoff is rapid and the water erosion hazard is severe. The Camborthids are shallow to deep, well drained, and are derived from sandstone, shale, and basalt. Surface runoff is rapid and the water erosion hazard is severe. The Rock outcrop component of this unit consists of exposed sandstone, shale, and basalt. This soil map unit is used primarily for wildlife habitat.

**Environmental Consequences/Mitigation:**

*Proposed Action*: Proposed treatment activities would remove some vegetation and could alter soil conditions through compaction, displacement, and the development of a hydrophobic soil layer associated with mechanical treatments, foot traffic, and burning activities. These impacts could result in an increase in erosion potential, possible offsite sedimentation, and potential nutrient loading in area drainages.

Soil compaction and displacement are expected to be minimal due to the amount of rock present, the use of rubber tired vehicles and some operations occurring over scattered slash material. Additionally, proposed activities would avoid steep slopes and drainages as much as possible. Hydrophobic soil layers would not likely result from pile burning activities, which would occur over the snow.

Based on the distance of the proposed activities from area drainages, the existing slope angle, and good vegetative cover; it is unlikely that sediment and nutrients would be transported to area drainages. As a result, no site specific mitigation is being recommended at this time besides basic BMPs associated with mechanical and hand treatments and following the burn plan. Any potential negative impacts to soil resources would be short duration and very localized.

*No Action Alternative:* The no action alternative would have no impact on soil resources.

**Analysis on the Public Land Health Standard for Upland Soils:** The proposed action and no action alternative would not likely prevent Standard 1 for Upland Soils from being achieved. In 2006, the Glenwood Springs Field Office completed the Burns to State Bridge Watershed Land Health Assessment. During the assessment, two allotments were evaluated that encompass the project area, the Piskey Allotment and the Cabin Gulch Allotment. The Piskey Allotment is located along the western edge of the project area

and the Cabin Gulch Allotment encompasses the remainder of the project area. No problems were observed within the two allotments with the exception of one site within the Piskey Allotment (Site # 8606-04). This site had moderate departure from expected conditions due to water flow patterns and pedestalling. Minor erosion with some instability and some active pedestalling was observed in water flow paths and interspaces. The soil stability rating was within the expected range and overall, the site was determined to be meeting the standard.

VEGETATION (includes an analysis on Land Health Standard 3)

**Affected Environment:** The project area is comprised primarily of sagebrush, mixed mountain shrubs (serviceberry, rabbitbrush, and snowberry) and pinyon pine. Understory grasses include Idaho fescue, bluebunch wheatgrass, bottlebrush squirreltail, and needlegrasses.

**Environmental Consequences/Mitigation:** The proposed action would result in the loss of forested vegetation (pinyon pine and juniper trees) in the project area. The removal of the encroaching trees should promote the growth of herbaceous vegetation in the area. Overall vegetative canopy and ground cover should remain the same or increase following treatment.

**Analysis on the Public Land Health Standard for plant and animal communities** (partial, see also Vegetation and Wildlife, Terrestrial): A formal Land Health Assessment was completed for the area in 2006. The general area was found to be meeting Standard 3 for healthy plant and animal communities. The proposed action would change the composition of the vegetative community by removing trees but would maintain or increase 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.

WILDLIFE, AQUATIC (includes an analysis on Standard 3)

**Affected Environment**: The project area is located within two ephemeral drainages, Cabin Gulch and a branch of Big Alkali Creek. Neither of these drainages contains aquatic wildlife. The nearest perennial waters are Big Alkali Creek located within 1.75 miles, and the Colorado River located within 0.6 miles. Portions of Big Alkali Creek contain rainbow and brown trout, speckled dace, and suckers. The Colorado River in the vicinity of the project contains brown and rainbow trout, mountain whitefish, speckled dace, and carp. Both waters also contain aquatic insects.

**Environmental Consequences/Mitigation:**

*Proposed Action*: The removal of encroaching pinyon pine and juniper trees from the sagebrush park would be done with heavy equipment in the form of a hydroaxe and by chainsaw. It is likely that some ground disturbance would result from the use of the hydroaxe. However, the rubber tired equipment should keep ground disturbance and

erosion potential to a minimum. Furthermore, work would not be allowed during wet conditions which would minimize rutting and soil displacement. The project should have minimal impact on downstream aquatic resources.

*No Action*: Under the no action alternative, no tree removal would occur. No impacts to aquatic wildlife would result.

**Analysis on the Public Land Health Standard for plant and animal communities** (partial, see also Vegetation and Wildlife, Terrestrial): A formal Land Health Assessment was completed in the project area in 2006. At that time the area was meeting Standard 3 for aquatic wildlife. The proposed action should have little bearing on the watersheds ability to continue to meet the Standard.

WILDLIFE, TERRESTRIAL (includes an analysis on Standard 3)

**Affected Environment:** The project area is comprised primarily of sagebrush and pinyon pine with an understory of native grasses. Some scattered junipers are present. Given the mixes of vegetation, the project area provides cover, forage, and nesting habitat for a variety of big game, small game, and non-game mammals and birds. The area is mapped as big game winter range.

**Environmental Consequences/Mitigation:**

*Proposed Action*: The removal of pinyon pine and juniper from the sagebrush park should benefit resident wildlife in the long-term, especially sagebrush dependent species that require larger blocks of intact habitat. Big game browse located within important winter ranges will be enhanced as foraging areas are maintained and improved through treatment. Abundant thermal and hiding cover in the form of dense p/j is located adjacent to the project to the west. It is likely that the use of heavy equipment during tree removal will result in some short term disturbance to resident wildlife. Some species will be temporarily displaced from the area to adjacent habitats. If treatments were conducted during the critical winter months, impacts to wintering wildlife and big game in particular could result due to noise, and human presence in areas where animals are concentrated on limited winter range. Impacts would include displacement of animals to less preferred habitats, and increased energy consumption due to accelerated heart and metabolic rates due to human induced stressors. This could ultimately result in reduced winter survival and herd productivity.

Mitigation: To reduce and/or eliminate impacts to wintering big game, treatments will not be preformed from December 1 to April 30.

*No Action*: Under the no action alternative, no tree removal would occur. No impacts or benefits to resident wildlife would result.

**Analysis on the Public Land Health Standard for plant and animal communities** (partial, see also Vegetation and Wildlife, Aquatic): A formal Land Health Assessment was completed for the area in 2006. The general area was found to be meeting Standard 3 for healthy plant and animal communities. The proposed action would benefit wildlife and should contribute to meeting this standard.

**Other Non-Critical Elements**: For the following elements, those brought forward for analysis will be formatted as shown above.

Table 2. Other Resources Considered in the Analysis.

| Resource | NA or Not Present | Present and Not Affected | Present and Affected |
|---|---|---|---|
| Access and Transportation | | X | |
| Cadastral Survey | X | | |
| Fire/Fuels Management | | X | |
| Forest Management | X | | |
| Geology and Minerals | X | | |
| Law Enforcement | X | | |
| Paleontology | X | | |
| Noise | X | | |
| Range Management | | X | |
| Realty Authorizations | X | | |
| Recreation | X | | |
| Socio-Economics | X | | |
| Visual Resources | | X | |
| Water Rights | X | | |

CUMULATIVE IMPACTS SUMMARY:
Cumulative impacts are the incremental effects caused by management actions considering all past, present, and reasonably foreseeable future actions affecting a resource. These can result from individually minor but collectively significant actions taken over time and the effects can be either additive or subtract from the effects of other actions.

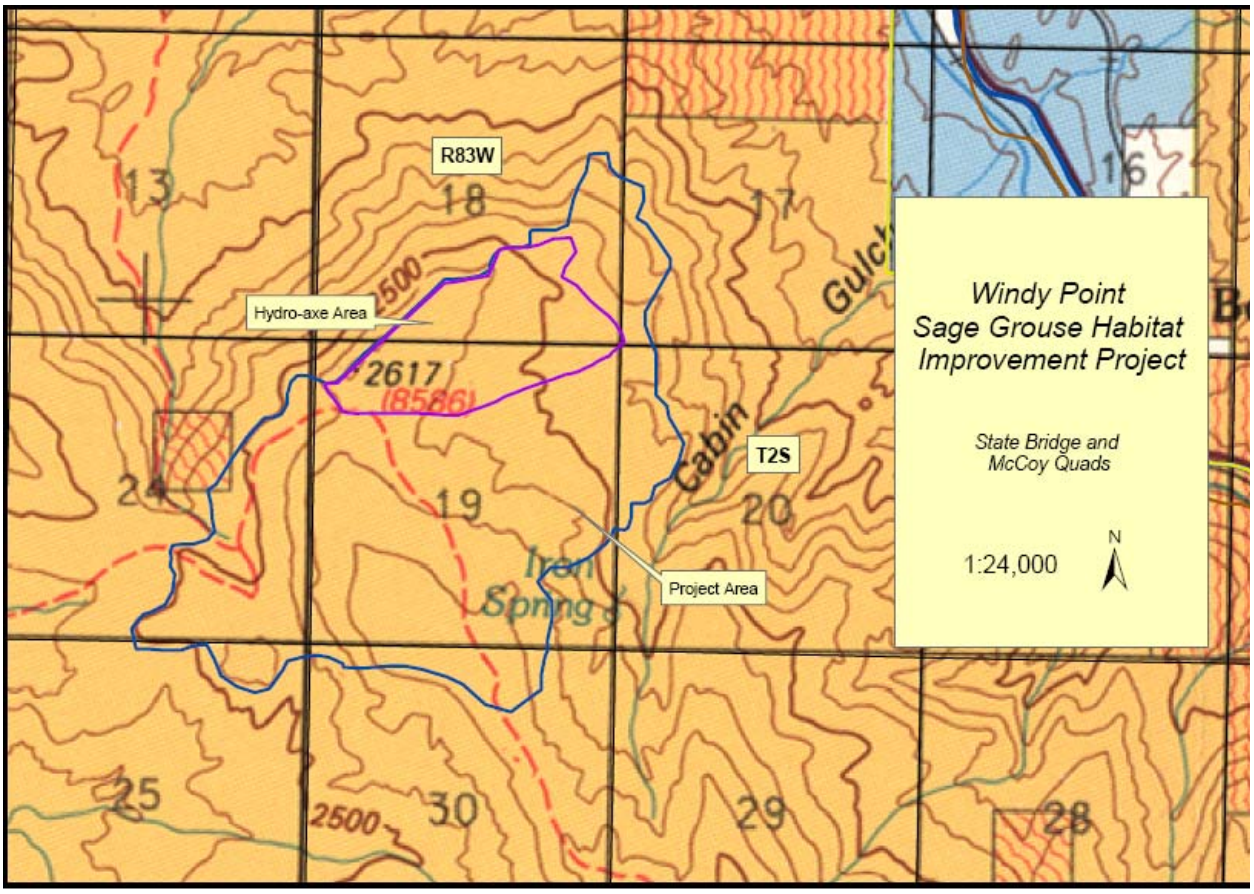
In summary, the proposed action would contribute to; reversing the effects of many years of sagebrush conversion and degradation by pinyon-juniper woodlands and offsetting some of the development-loss of habitat occurring on private property.

PERSONS / AGENCIES CONSULTED:
Jenn Logan, Species Conservation Biologist, CDOW, Steamboat Springs
Liza Rossi, Species Conservation Biologist, CDOW, Steamboat Springs
Brian Wodrich, District Wildlife Manager, CDOW, Eagle North District
North Eagle/South Routt Sage Grouse Conservation Plan Working Group

INTERDISCIPLINARY REVIEW:

| Name | Title | Responsibility |
|---|---|---|
| Desa Ausmus | Wildlife Biologist | NEPA Lead, Migratory Birds, T&E and Terrestrial Wildlife |
| Jeff O'Connell | Hydrologist | Soil, Air, Water, Geology |
| Cheryl Harrison | Archaeologist | Cultural Resources and Native American Concerns |
| Dereck Wilson | Rangeland Management Specialist | Invasive, Non-native Species |
| Carla DeYoung | Ecologist | ACEC, Special Status Plants, Vegetation, Land Health Stds |
| Tom Fresques | Fisheries Biologist | Aquatic Wildlife, T&E Fish |
| Kay Hopkins | Outdoor Recreation Planner | WSR, Wilderness, VRM |
| Mike Kinser | Rangeland Management Specialist | Wetlands and Riparian Zones, Range Management |
| Ody Anderson | Fuels Specialist | Fire and Fuels Management |

Project Map


R83W
T2S
Hydro-axe Area
Project Area
Windy Point
Sage Grouse Habitat
Improvement Project
State Bridge and
McCoy Quads
1:24,000
N
13
18
17
16
24
19
20
25
30
29
28
2500
2617
(8586)
Cabin
Iron
Spring

FONSI

CO140-2008-084-EA

The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The proposed action with any approved mitigation measures result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION RECORD

DECISION: It is my decision to implement the proposed vegetative treatment project with the proposed mitigation measures as identified below.

RATIONALE: The proposed project is consistent with the GSFO Fire Management Plan and will benefit greater sage grouse a BLM Sensitive Species. Measures to eliminate or reduce environmental impacts have been identified and included.

MITIGATION MEASURES:

**Air Quality:**
Pile burning activities would be conducted in accordance with the current State of Colorado Smoke Management Plan and permitted by open burning permits issued by the Colorado Department of Public Health and Environment Air Pollution Control Division.

**Cultural/Native American Concerns:**
Education/Discovery/NAGPRA Stipulation: The National Historic Preservation Act (NHPA) requires that if newly discovered cultural resources are identified during project implementation, work in that area must stop and the agency Authorized Officer notified immediately (36 CFR 800.13). The Native American Graves Protection and Repatriation Act (NAGPRA), requires that if inadvertent discovery of Native American Remains or Objects occurs, activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice made to the BLM Authorized Officer, as well as the appropriate Native American group(s) (IV.C.2). Notice may be followed by a 30-day delay (NAGPRA Section 3(d)). Further actions also require compliance under the provisions of NHPA and the Archaeological Resource Protection Act.

**Invasive, Non-Native Species:**
Construction equipment associated with the proposed action would be washed before transported to the project site to remove any noxious weed seeds. Monitoring for an increase in weed populations would occur for 3 consecutive years after the project by BLM personnel. BLM would be responsible for treating any infestations.

**Wildlife, Terrestrial:**
To reduce and/or eliminate impacts to wintering big game, treatments will not be preformed from December 1 to April 30.

NAME OF PREPARER: Desa M. Ausmus

SIGNATURE OF AUTHORIZED OFFICIAL: _____
Authorized Officer

DATE SIGNED: 9/11/2008

APPENDICES: N/A

ATTACHMENTS: N/A