



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Glenwood Springs Field Office  
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## ENVIRONMENTAL ASSESSMENT

NUMBER: CO-140-2009-0002

PROJECT NAME: Four Mile Fuels Reduction Project

LEGAL DESCRIPTION:

B.L.M.

Township 7S, Range 89W, Sections 15: SWSW, 16: ESE

U.S.F.S.

Township 7S, Range 89W, Section 21: NE, NW

APPLICANT: B.L.M.

### DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The overall purpose of this project is to reduce the risk of wildfire spread between public lands managed by the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS), White River National Forest (WRNF), and the adjacent community of Oak Meadows. The proposed vegetative treatment will help achieve that goal by reducing and disrupting the continuity of hazardous fuels (thickets of mountain shrubs such as Gambel oak and serviceberry) on the adjacent federal lands. The reduction of fuels will help improve fire fighting capability and safety to contain a wildfire on public and private lands.

Background/Introduction (optional):

**BACKGROUND:**

Development of the Oak Meadows Community began in the Four-Mile drainage with construction of condominiums and individual homes on approximately 1-3 acre lots along Sun King Avenue adjacent to both the WRNF and BLM managed lands. There are approximately 25 of these homes located along Sun King Avenue adjacent to the BLM and WRNF lands. The homes, for the most part, were not constructed with defensible space (vegetative clearing immediately adjacent to the house) and are considered at risk due to the connectivity of the fuels on adjacent public lands around the homes. New roads (Old Midland Spur) and infrastructure were completed in 2005 to facilitate new home construction. In 2005, 4 new homes were started that are adjacent to BLM lands. Future

development will result in many new homes constructed and adjacent to federally managed lands. This situation where private homes and lands are adjacent to federal lands is referred to as the Wildland Urban Interface (WUI).

The BLM Glenwood Springs Field Office (GSFO) manages a 200 acre parcel of public land and the USFS manages an isolated 80 acre parcel of the White River National Forest (WRNF) both of which are adjacent to each other and the Oak Meadows Community. A single treatment by either of the agencies would not provide a comprehensive approach to treating hazardous fuels adjacent to private lands. This project is, therefore, a cooperative effort between the agencies to treat all adjacent federal lands for the most effective fuels reduction project. In addition, the federal agencies are following the direction of the National Fire Plan of 2000 to work collaboratively with both agencies and land owners to reduce the hazard and risk of wildfire spread between federal and private lands, with priority of treatments given to the Wildland Urban Interface.

The Oak Meadows community is within the Glenwood Springs Fire Protection District and has been assessed as a community at very high risk from wildland fire. The Glenwood Springs Community Wildfire Protection Plan or (CWPP) released in April of 2007, identifies the Oak Meadows Subdivision as a very high risk of wildland fire. The CWPP also states that fuels reduction projects should be coordinated with the BLM, U.S.F.S., and private landowners to gain the most effective project design available for the community.

**Proposed Action:**

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

**Proposed Action:**

Overall, the proposal is to reduce hazardous fuels on public lands managed by the Bureau of Land Management and the US Forest Service, White River National Forest (WRNF), along the west perimeter of the Oak Meadows Community. See the attached map for its location. Treatments may include cutting primarily oak brush and serviceberry with heavy equipment or hand tools. The cut stumps could be sprayed with herbicide, and the residual slash could be chipped or piled and burned. The treatment consists of approximately 6 acres on the WRNF and 71 acres on BLM lands for a total of 77 acres of public land.

**On the USFS White River National Forest parcel (T7S, R89W, section 21):**

The treatment will begin at the corner intersection of sections 15, 16, 21, and 22 and run south along a powerline clearing and jeep road situated along the WRNF boundary. The treatment area on the WRNF consists of approximately 6 acres that form a triangle beginning at the section corner intersection and running south for approximately 1,280 feet, then west to a power pole and clearing, and then back northeast to the corner intersection. In addition to treating both agency lands to make an effective fuels reduction, it may be necessary to include small portions of private land around power poles and immediately adjacent to homes. Cutting on adjacent private land would be done only with permission from the land owner to facilitate and augment the treatment on federal lands.

Along the National Forest boundary, a 200 foot strip of oakbrush would be thinned in an irregular pattern leaving behind islands or patches of oak 15 to 20 feet in diameter scattered throughout the area with wide openings of approximately 25-40 feet in between. To create the openings, the oakbrush will be cut with either heavy machinery (hydro ax or roller chopper) and/or by hand (chainsaw). Within the first 100 feet of this strip, approximately 70% of the brush would be removed, the next 50 feet would remove 50% and the last 50 feet would remove approximately 30 %. The remainder of the triangle outside of the 200 foot strip would be also treated to remove approximately 30% of the brush. A hydro ax or flail will be used as much as possible, but will not be able to cut everything within the 6 acre treatment area due to large rocks and steep slopes. Areas left uncut by the hydro ax would be completed by hand cutting with chain saws, with chipping or piling and burning of slash that cannot be chipped due to access problems. Herbicide would be applied immediately to the cut oak stump to reduce sprouting. Herbicide application would include all acreage on the Forest Service administered lands. Herbicide would only be applied to cut stumps or regenerating sprouts the following growing season. Maintenance within the treatment area may be needed depending upon the effectiveness of the herbicide. The timing of all work would be from May to November for all aspects of this project. Maintenance could include cutting and or application of herbicide to sprouting oakbrush depending on the situation.

**On Public Lands managed by the Bureau of Land Management (T7S, R89W, Section 15, 16):**

The treatment on public lands managed by BLM will be the same as described for USFS lands described above except for the location and the size of the treatment area. The 200 foot strip (fuel break) treatment will follow the boundary for approximately  $\frac{3}{4}$  mile adjacent to the Oak Meadows Subdivision. The treatment on BLM lands also begins at the section corners and runs north approximately  $\frac{1}{2}$  mile following trails to create a treatment area of 71 acres. The area outside of the 200 foot strip will be treated to remove approximately 30 % of the brush. The amount of treatment may vary in areas of heavy oakbrush to effectively reduce heavy concentrations of fuel loading, but the overall objective is to mimic a natural mosaic pattern of oakbrush and open sagebrush parks already existing throughout the landscape. Herbicide application would be limited to the hand cut area along the public/private boundary. This would be limited to approximately 10 acres of the 71 acres.

As stated above for the treatment on USFS lands, it may be necessary to also include small portions of adjacent private land around power poles and immediately adjacent to homes. Cutting on adjacent private land would be done only with permission from the land owner to facilitate or improve the treatment on federal lands. In particular, cutting into the dense oak thickets on private land along the uphill powerline corridor, would help protect powerline poles as well as attenuate the straight line visual contrast of the powerline clearing. The timing of all work would be from May to November for all aspects of this project.

The following describes in more detail the methods that will be used on both BLM and USFS lands.

**Hand Thinning by Chainsaw and Slash Disposal by Chipping and/or Piling and Burning:**

Brush will be cut by hand crews with chainsaws or similar power tools to the width and residual cover specifications for the particular treatment area. Oak brush and similar residual cover may be limbed or thinned to reduce fire behavior.

Debris from the brush clearing may be treated in one of the following ways: (1) in areas accessible by 4WD truck and trailer, the slash may be mulched using a motorized chipper and dispersed over the ground, (2) in areas inaccessible by truck, the slash will either be removed by hand to the chipper and/or scattered in place, or (3) the slash may also be placed in 4' to 6' tall piles and burned in the fall or winter. Pile burning will only take place during very moist periods and in most instances will require a minimum of 1-3" of snow on the ground to eliminate any potential control problems. If deemed appropriate, some small brush piles could be left on the site to provide cover and habitat for certain wildlife species. Pile burning would be implemented in accordance with an approved prescribed burn plan and a State of Colorado Smoke Permit.

**Heavy Machinery:**

A variety of equipment options are available but the most common and likely to be used would be a large tractor capable of using either a hydro axe or horizontal cutting attachments, however, various equipment could be used as long as the treatment and impacts are the same as the hydro axe.



The term “hydro axe” is derived from the heavy duty hydraulic system used to drive the cutting attachments (ax) and is a trade name for this type of machinery. A trade name for the horizontal carbide tip cutting attachment is “Fecon Flail”. The hydro axe machine is a large articulated tractor (similar to a skidder or a large front end loader) with a 6' - 8' hydraulic powered mowing head, similar to a lawn mower with two very large cutting blades attached to a maneuverable platform on the front of the tractor. The Flail's cutting head is a horizontal row of cutting teeth (usually carbide tipped) mounted on the same articulated tractor as the hydro axe. The machine has large rubber, flotation-type tires which result in minimal ground disturbance. It can operate on most ground surface conditions and slopes up to about 20 percent depending on the amount of loose rock on the surface and the angle of attack. The machine can negotiate slightly steeper slopes when running directly down slope. The machine has the capability to be highly selective and can meander through a stand of trees removing selected trees, or patches to create a desired mosaic. The machine chops and mulches the plant material into the desired size, which can range from fist-size to 3-4 foot long sections or larger. Stump height can be controlled, and may vary from below ground level to any desired heights. The Hydro-Axe head is lifted above the tree or shrub top and lowered quickly, usually completely chopping the plant in less than 15 seconds. The Hydro-Ax is used in most vegetative types including mountain shrub, and pinyon/juniper stands with stem diameters up to 15-18 inches. Safety to bystanders is an issue. During its operation large pieces of debris can be thrown 200-300 feet. Seeding can be done with the operation or prior to treatment.

The use of the horizontal type cutting attachment reduces this safety problem since debris is not thrown greater than 25 to 50 feet.

Both cutting attachments result in cutting and shredding of the oak brush and other shrubs into a mulch-like material. The machine cuts and scatters the cut oak brush (mulch) in front of the machine which helps to reduce soil disturbance by providing a matt of material to drive on as the machines travels forward.

Regardless of which specific device is used, the treatment would be designed to target only the woody vegetation, thus leaving grasses and forbs relatively undisturbed, thus protecting the soil from erosion. In areas that lack an adequate seed source, seed can often be scattered by a broadcast seeder mounted on the back of the equipment. To protect soil and water quality, operations would not be allowed in muddy conditions.

### **Herbicide Application to Cut Stumps:**

Gambel oak possesses a vigorous sprouting characteristic, which causes it to generate hundreds of new stems after the death of the dominant stem or “parent plant”. Due to this characteristic, burning, cutting, or any other attempt to remove Gambel oak often succeeds in killing the dominant stems. However, the sprouting response will often increase the stems per acre soon after treatment, returning an area to its previous percent cover within 1 to 5 years and in some cases, may even increase the percent cover over an area, thus negating the effect of the treatment after a very short period of time.

In order to create an effective fuel treatment in Gambel oak and other mountain shrubs, it is advisable to suppress sprouting as much as possible to extend the effective life of the treatment. Reduction in the sprouting response can be achieved in several different ways including timing treatments during periods where carbohydrate reserves are at their lowest levels (spring & late summer) and thinning sub-dominant plants while leaving the parent plants in place. While these techniques have been shown to help reduce sprouting, they are only marginally effective and significant sprouting still occurs. A variety of herbicides and application techniques have been tested over the years with varying amounts of success. Current knowledge suggests that the most effective herbicides available for controlling oak and mountain shrub sprouting are Isopropylamine salt of Imazapyr, which is sold under the trade name of Arsenal and triclopyr, which is sold under the trade name of Garlon 4 and Pathfinder II (pre-mixed with agricultural oil). The herbicide is applied on the stump within 30 minutes after the plant has been cut to allow for maximum absorption into the root system. Backpack sprayers and ATV's mounted with tanks and spraying equipment would be used to apply the chemical directly to the cut stump. The active ingredient for arsenal is mixed with water at a rate of 10 ounces of product per gallon of water to achieve an intended rate of 6 pints (1.5 pounds of product per acre) within the 200 foot strip.(and at a rate of 2 pints per acre outside the 200 foot strip). In addition to the herbicide, a surfactant and dye (usually blue) is added to the mix and applied to the cut stump. The dye identifies treated stumps and will fade and disappear within 7 to 30 days of application.

If the herbicide needs to be applied at a later date due to coordinating logistics with the herbicide application crew, an alternative treatment method is to spray the herbicide on emerging sprouts. Re-sprouting generally occurs within 3 to 6 weeks after cutting oak during the growing season.

All treatments are designed to target only the overstory vegetation, leaving grasses and forbs relatively undisturbed, thus protecting the soil from erosion. In areas that lack an adequate seed source, seed can often be scattered by a broadcast seeder mounted on the back of the equipment. To protect soil and water quality, operations would not be allowed in muddy conditions.

Herbicide would be applied to all of the 6 acres of Forest Service land that are treated. Application would be limited to actual cut stumps or regenerating sprouts the following growing season. Herbicide application on BLM lands would occur on approximately 10 acres of hand cutting along the boundary of public/private lands. Application would again be limited to actual cut stumps or regenerating sprouts the following growing season.

Also included in the proposed action is to monitor the treated area for the invasion of noxious weeds for the first two growing seasons after treatment. If noxious weeds such as thistles and houndstongue are found, herbicide will be applied. The herbicide to be used will be determined based on the type of weed found and the application of herbicide will follow the requirements of a BLM Pesticide Use Permit (PUP).

### **PROJECT DESIGN SPECIFICATIONS :**

The following are both design and mitigation measures that would be implemented as part of the proposed action, and would be applicable to all fuels treatments throughout the life of this project.

1. Any treatment method selected will thin and remove vegetation with irregular and feathered thinning patterns and will minimize creating straight lines.
2. Any brush disposal by burning will be conducted when adjacent fuels are either wet or snow covered, and when a smoke dispersal forecast of good or better is predicted.
3. A Pesticide Use Proposal (PUP) is required to be submitted and approved prior to herbicide application. Approval of the PUP requires the applicator to be a licensed herbicide applicator through the State of Colorado, Department of Agriculture.
4. Several small slash and brush piles may be left for small game habitat given that they are located away (not immediately adjacent) to a house and that the brush piles will not detract from the overall project objective of reducing fuels and providing a more defensible space for fire suppression activities.
5. All work will be completed between the months of May and November.

6. No equipment or supplies would be staged on or within 25 feet of the old railroad grade that is located in the northeast corner and midway along the eastern boundary. These areas will be flagged before work near the areas would be completed.

**No Action Alternative:**

No fuel reductions or treatment would be conducted on public land. Fuel loading in the area would stay the same.

**ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:**

1. The use of prescribed fire in a broadcast manner to remove hazardous fuels was considered, but eliminated because burning oakbrush on a broadcast scale would present an unnecessary element of risk to the adjacent subdivision in this situation. In addition, the control lines needed to protect the subdivision would probably be bulldozed and create a much greater impact than that of the proposed action. This could become a viable alternative after the first entry with mechanical treatment such as the proposed action within this EA.

2. The use of a bulldozer to remove vegetation was considered but eliminated to keep surface disturbance and impacts to the least amount possible while achieving the goal of hazardous fuel reduction. A bulldozed line would create unacceptable resource impacts.

**NEED FOR THE ACTION:**

The community of Oak Meadows is at risk from wildfire due to the hazardous fuels within the community and their connection to fuels on public lands. Hazardous fuels on public lands are defined as a fuel complex defined by type, arrangement, volume, condition, and location that create a hazard of ignition or suppression difficulty. In this case, the fuels are the continuous thickets of mountain shrub, primarily Gambel Oak, which dominates the Oak Meadows community and adjacent public lands. The current structure of the Gambel Oak stands in the area is at a density and height that fire intensity may not only exceed the capability of hand crews, but will also reduce the effectiveness of aerial retardant in limiting fire spread along the west side of the community.

With the continuous blanket of fuels within and surrounding Oak Meadows, numerous scenarios of spreading fire are possible depending on the conditions at the time such as wind, fuel moisture, point of origin, direction of spread, and topography. A wildfire could destroy the residences and present a considerable threat to the safety of the residents and firefighters engaged in the fire. The need is to reduce hazardous fuels on adjacent public lands in a manner that will modify fire behavior (flame length, fire intensity, rate of spread, spotting potential, etc.) and establish a more defensible control line along the subdivision's west perimeter.

**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 Lands:**

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

Name of Plan: Glenwood Springs Resource Management Plan.

Date Approved: Amended in November 1991 - Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement; amended Nov. 1996 - Colorado Standards and Guidelines; amended 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 2002 and revised 09/2004..

Decision Number/Page: The proposed action is within Fire Management Unit B-140-03 - Roaring Fork Valley. The fire management Objectives, Strategies (including Prescriptive Vegetative Treatments) and the Priority Ranking are in Appendix B, pages 26, 27 of the Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance 2002 and revised 09/2004. Also within the Fire Management Plan, Chapter III page 10 discusses Fuels Treatment Prioritization.

Decision Language: The priority ranking for Fuels Treatments is “high”. The goals for prescriptive vegetative treatments in this unit include the following:

\*Reduce hazardous fuel loading and the risks of wildland fire escaping public lands.

**USFS, White River National Forest Lands:**

Fire suppression and management on lands administered by the BLM and U.S. Forest Service is through the Upper Colorado Interagency Fire Management Unit (UCR). Suppression and prescribed fire activities are implemented by the UCR on either jurisdictional lands as needed. The project area is contained within the B-0215-02 fire management unit, per the White River Fire Management Plan, which has as an objective, the protection of human life, archaeological and historic sites, and private property. This fire management unit also contains the specific wildland fire management direction of ensuring that wildland fires are contained within natural or man-made barriers/firebreaks (2002, White River NF FMP, Appendix M).

Evaluation of potential effects to federally listed species, Forest Service sensitive species, and Management Indicator Species

The project is located on public lands located immediately west of the Oak Meadows subdivision, Garfield County, Colorado. The treatment area on WRNF (T7S, R89W,

Section 21: E2NENE) consists of approximately six acres that form a triangle beginning at the section corner intersection and running south for approximately 1,280 feet, then west to a power pole and clearing, and then back northeast to the corner intersection. This is the eastern most periphery of an isolated 80-acre parcel of National Forest System (NFS) land. Vegetation to be treated is the continuous thickets of mountain shrub, primarily Gambel's oak, which dominates the Oak Meadows subdivision and adjacent public lands. The project area is located at approximately 7,600 ft.



Figure 1. Existing condition of NFS treatment unit at Oak Meadows fuels reduction project area, looking north from surrounding private land.

#### *Listed species*

Federally listed species on the White River National Forest may occur in, or be influenced by the proposed actions (Table 2). Using life history information for the listed species potentially affected, in combination with a site visit, The Forest Service wildlife biologist assessed the potential for impacts to occur to the listed species and conclude the following. There is no potential habitat for any listed species within the project area. No federally listed species known to occur (or potentially occurring) on the White River National Forest, occupies (or could occupy) the proposed action site permanently or seasonally.

In addition, no disruption (from noise or commotion) consequences for listed species are anticipated from the action, regardless of whether a species is permanent, seasonal, or transient. The action is temporary and limited to a small area on the periphery of private land. There are no other actions overlapping in time and space with this action.

The action would not result in water depletions or other effects that could influence any of the four endangered fish living downstream in the Colorado River. Thus, the action would not directly, indirectly, or cumulatively impact life requisites, reproduction, or habitat for any federally listed species.

As a result, the action would have NO EFFECT to any species listed under the Endangered Species Act (1973, as amended). The rationale is as follows:

- The project site is not (by itself or in connection with adjacent vegetation) currently suitable (unoccupied or occupied) habitat for any T&E species present or potentially occurring on the White River National Forest.
- The proposed action would not impact reproduction or young rearing of any species and would not constitute a barrier to movements for any individuals.

No special measures are required to eliminate, reduce, avoid or compensate for unwanted effects to listed species during implementation of the action or afterwards.

#### *Sensitive species*

Forest Service sensitive species on the White River National Forest may occur in, or be influenced by the proposed action (see Table 3). The project site does not contain terrestrial or aquatic habitat for any Forest Service sensitive species. No sensitive species known to occur (or potentially occurring) on the White River National Forest, occupies (or could occupy) the proposed action site permanently or seasonally. There would be no change in the existing baseline conditions for any sensitive species as a result of the proposed action. In addition, no disruption (from noise or commotion) consequences for sensitive species are anticipated from the action, regardless of whether a species is permanent, seasonal, or transient. The action is temporary and limited to a small area on the periphery of private land. There are no other actions overlapping in time and space with this action. Thus, the action would have NO IMPACT to any Forest Service sensitive species.

#### **Forest Plan Consistency:**

For elk, the NFS land within the project area is within a 5.43 Management Area (Elk Habitat), which is primarily situated upslope from the project area (see 2002 Forest Plan Revision, pp. 3-61 to 3-69). It is mapped by CDOW as elk winter range (unpublished data in Supervisor's Office files, Glenwood Springs, Colo.). The NFS land within the project area is an isolated parcel surrounded by private land. This parcel is comprised of oakbrush, which provides winter habitat for elk, but provides only marginal calving habitat in circumstances where larger parcels of aspen and open conifer vegetation surround shrublands. This vegetation composition is located upslope of the project area in the main 5.43 MA. The 2002 Forest plan guideline for calving habitat calls for

restricting activities during May 15 to June 20, annually. Mechanical treatments are proposed between May and September, which would overlap the calving period. However, potential for calving on NFS lands in the project area is minimal due to the marginal habitat as well as the proximity to the urban interface that would likely be a source of disturbance to calving elk. Thus, NFS lands in the project area are not effective for calving habitat.

Elk primarily would be found at higher elevations above the project area during the period of operations. A few individuals could be temporarily disturbed or disrupted by operations, raising their stress levels in the short-term. After operations, there will be no long-term disturbance impacts to elk within the project area. The temporary disturbance would not displace any elk from the area due to its limited scope and time scale.

Vegetation over six acres will be partially cut and then maintained in a stunted form using herbicide and cutting treatments. Vegetation modified in winter habitat can indirectly impact this species. However, the modification of oakbrush vegetation will not eliminate forage from the project area since vegetation will be available to elk as it re-sprouts in between treatments. Further, portions of the unit receiving moderate and light treatments would remain unchanged for this MIS since some shrubs and grasses for forage and cover will remain. The stunted sprouts may be buried under snow in winter, so it is realistic to consider the treated vegetation available to elk only during snow-free periods. Unmodified shrubs and stems would remain available to elk throughout the year. The modification of 71 acres of oak-dominated vegetation in the BLM unit would be additive to the modification on NFS lands within the project area. Cumulatively, across WRNF, the modification of up to six acres of breeding and summer oak-dominated vegetation situated at the urban interface represents a negligible loss of potential habitat for this MIS.

The project impacts would not contribute measurable effects to viability of these populations or their available habitat across White River National Forest because of the extremely small scale of project effects relative to the Forest-wide range of these species and their habitat. Other MIS not found in the project area would be unaffected by this action. The proposed action will not negatively affect the Forest's ability to supply adequate year-round habitat for any MIS. These populations will continue to be limited by factors outside those associated with the activities planned under this action.

**Forest Plan Consistency:**

Under the Forest Plan, species of viability concern are Forest Service sensitive species. Since no federally listed or Forest Service sensitive species or their habitat will be impacted under the proposed action, this project will comply with Forest Plan objectives, standards, and guidelines for these species. This project is consistent with Forest Plan objectives for MIS.

**Standards for Public Land Health:** In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. The five standards

cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands.

The Glenwood Springs Field Office is in the process of completing land health assessments on a landscape basis. The landscape which encompasses the proposed action is scheduled for a land health assessment in 2010. No formal determination on conformance with the Standards and guidelines for livestock grazing will be made until the land health assessment is completed. However, the impact analysis herein 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 each of the five standards. These analyses are located in specific elements listed below:

**AFFECTED ENVIRONMENT /ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:**

**CRITICAL ELEMENTS**

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 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.**

<b>Table 1 - Critical Elements of the Human Environment</b>									
<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>		<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>	
	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				
Cultural Resources	X			X	Wastes, Hazardous or Solid	X		X	
Environmental Justice					Water Quality, Drinking and Ground	X		X	
Floodplains		X		X	Wetlands and Riparian Zones		X		X
Invasive, Non-native Species	X		X		Wild and Scenic Rivers		X		X
Native American Religious Concerns		X		X	Environmental Justice				

## AIR QUALITY

**Affected Environment:** The proposed action and area (Garfield 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.

### *Proposed Action*

**Environmental Consequences/Mitigation:** The proposed action would result in short term localized emissions of smoke during fuels burning operations, dust generation by equipment, and minor vehicle emissions. While the effects of these activities appear to be minor, they could affect individuals in the vicinity sensitive to smoke such as the elderly, infants and young children, and those with breathing problems. Others that may be at risk include pregnant women, those active outdoors, and people with allergies or diabetes.

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. In addition, visual monitoring of smoke impacts would occur in the affected area. 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*

**Environmental Consequences/Mitigation:** Under the no action alternative, no fuels reduction activities would occur. The result could be wildfire which would have more of an effect on local air quality than the proposed fuels reduction activities.

## AREAS OF CRITICAL ENVIRONMENTAL CONCERN

**Affected Environment:** There are no Areas of Critical Environmental Concern within the proposed project area.

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

## CULTURAL RESOURCES

**Affected Environment:** A cultural resource inventory (GSFO# 15405-5) was conducted of the Oak Meadows WUI Fuels Reduction project during the fall of 2005. One historic property (5GF469) was identified, a portion of the Jerome Park Branch of the Colorado Midland Railroad.

## Environmental Consequences/Mitigation:

### *Proposed Action:*

The ties and tracks of the Colorado Midland Railroad have been removed but, the bed remains generally free of vegetation and retains a crown-and-ditch appearance. The proposed action should have little effect on the railroad as long as no ground disturbance is allowed on the railroad bed and all staging is done somewhere else.

Mechanical treatments can be severely detrimental to archaeological resources. It is associated with a wide range of effects including tracked vehicle damage, soil churning, uprooting, mulching/cutting, erosion, and access. In a recent study of vegetative treatments (Andrews, Bradford 2004) indicated that “roller chopping is the most destructive treatments to archaeological resources.” It is most detrimental to artifacts, wood and brush structures, and subsurface features. Hydro-ax impacts in contrast are primarily limited to rubber tire damage and access and far less detrimental than roller chopping. Additionally, indirect long term cumulative impacts from increased access and personnel could result in a range of impacts to known and undiscovered cultural resources ranging from illegal collection and excavation to vandalism. Therefore, the Education/Discovery stipulation needs to be added to the permit. This stipulation needs to be stressed to the contractors that it is their responsibility to protect and report any cultural resources encountered during operations.

Consultation with the Colorado State Historic Preservation Officer (SHPO) indicated that railroad bed should be avoided during the treatment as specified in the Project Design Specifications. As long as this specification is adhered to a determination of **No Adverse Affect** can be made in accordance with the National Historic Preservation Act (16U.S.C 470f), National BLM/SHPO Programmatic Agreement (1997), and Colorado Protocol (1998).

### *No Action:*

Under this alternative there would be neither beneficial nor detrimental to known cultural resources.

### Mitigation:

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.

## ENVIRONMENTAL JUSTICE

Affected Environment: The proposed action is located in Garfield County

Environmental Consequences/Mitigation: The proposed action and alternatives are not expected to create a disproportionately high and adverse human health impact or environmental effect on minority or low-income populations within the area.

## INVASIVE, NON-NATIVE SPECIES

Affected Environment: No noxious weeds or invasive, non-native species have been officially documented at the project site. However, given the widespread nature of noxious weed infestations throughout the resource area, it is assumed that some level of infestation does exist at the site.

Environmental Consequences/Mitigation: Activities associated with the proposed action will disturb the soil surface and manipulate the vegetation structure within the project site creating a niche for noxious weeds and other invasive species to become established and/or increase in numbers.

Mitigation: Equipment would be washed before entering the project area. In addition if equipment is moved off of project site, it would be washed again before re entering the project area. The treatment area would be monitored for two growing seasons after project completion for the presence of noxious weeds on the Colorado State List A or B (except redstem filaree) within the area disturbed. If the applicant chooses to use herbicides as the control method on public lands, a Pesticide Use Proposal shall be submitted to the BLM and approved prior to initiating any herbicide spraying. If noxious weeds found, herbicide will be applied.

No Action Alternative: Under the No Action Alternative, no fuel reduction activities would occur and the risk of noxious weed invasion would remain the same as current levels.

## MIGRATORY BIRDS

Affected Environment: The Oak Meadows project area consists primarily of oakbrush/mixed mountain shrub with small patches of sagebrush. These vegetation types provide both foraging and nesting habitat for a variety of migratory birds. One species listed on the USFWS's Birds of Conservation Concern List, Virginia's warbler, may nest in the area. Additional high interest birds that may nest in this habitat type include green-tailed towhee, dusky flycatcher and common poorwill.

Environmental Consequences/Mitigation:

Proposed Action: The Proposed Action would mimic natural disturbances and improve the overall health and vigor of the ecosystem. Mechanical treatments of oakbrush would create a mosaic of seral stages and open dense stands, allowing oakbrush to resprout. In

addition, as shrub canopy is reduced, understory grass and forb density and diversity should improve. Sagebrush would not be targeted for treatment and there would be little or no impact to this community.

Treatment of oakbrush would improve stand composition and structure over time and reduce fuel loading. However, some short-term (<15 years) impacts to migratory bird habitat would likely result. Treatments would reduce shrub density and cover until such time as regeneration of younger plants occurs, which would temporarily displace nesting birds to adjacent habitat. Treatment implementation would result in the temporary displacement of migratory birds due to associated noise and an increase in human presence. It is also possible that trampling of ground nesting birds and/or their eggs could occur, but intentional take of native birds is not anticipated (see mitigation).

Herbicide would be applied to the hand cut stumps along the public/private boundary. This would be limited to approximately 10 acres. Herbicide treatment would have minimal impacts to migratory bird species. Imazapyr is not considered to be very toxic to birds and therefore this herbicide would pose a very low risk to bird species ([www.epa.gov/oppsrrd1/REDS/imazapyr\\_red.pdf](http://www.epa.gov/oppsrrd1/REDS/imazapyr_red.pdf) – May 2, 2008). Triclopyr is slightly toxic to birds if ingested and can slightly influence reproductive success ([www.epa.gov/oppsrrd1/REDS/2710red.pdf](http://www.epa.gov/oppsrrd1/REDS/2710red.pdf) - May 2, 2008). This impact is expected to be minimal and isolated and would not influence populations of migratory birds on a landscape level.

Mitigation: When possible, delay mechanical treatments using heavy equipment until July 1. This will help minimize impacts to nesting migratory birds including harassment, nest abandonment and potential destruction of nests and/or eggs.

No Action Alternative: There would be no impacts to migratory birds from the No Action Alternative.

## NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment: On November 7, 2005 an informational letter was sent to the Southern Ute, Uintah and Ouray Bands of the Northern Ute, and the Ute Mountain Ute Tribes describing the project and the results of the cultural resources inventory. On January 31, 2006 the Southern Ute Tribal representative, Neil Cloud, responded via a fax that there are no properties of religious or cultural significance present in the area that are a concern to the Southern Ute Tribe. They have determined that there will be No Effect on Native American properties. No other response was received. The response by the Southern Ute supports the GSFO position that there at present, no Native American concerns are known. The Ute Tribes claim the area as part of their ancestral homeland. If new data is disclosed by the Ute Tribes, new terms and conditions may have to be negotiated to accommodate their concerns during implementation.

#### Environmental Consequences/Mitigation:

*Proposed Action:* No direct impacts to Native American areas of concern are anticipated. Indirect impacts from increased access and personnel could result in a range of impacts to unknown sites from illegal collection to vandalism. A standard Education/Discovery/NAGPRA stipulation for the protection of Native American values would be attached. The importance of this protection should be stressed to the contractors, including informing them of their responsibilities to protect and report any cultural resources encountered during operations.

#### *No Action Alternative:*

Under this alternative the proposed action would not occur and the potential for direct and indirect impacts to known Native American resources would be diminished.

#### THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes a finding on 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 Garfield County: Uinta Basin hookless cactus (*Sclerocactus glaucus*), Ute Ladies' Tresses (*Spiranthes diluvialis*), Parachute beardtongue (*Penstemon debilis*), DeBeque phacelia (*Phacelia submutica*), Canada lynx (*Lynx canadensis*), Mexican spotted owl (*Strix occidentalis*), yellow-billed cuckoo (*Coccyzus americanus*), razorback sucker (*Xyrauchen texanus*), Colorado pikeminnow (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), and humpback chub (*Gila cypha*).

There are no known occurrences of or any suitable habitat for any threatened, endangered, candidate or BLM sensitive plant species within the Oak Meadows project area.

*Environmental Consequences/Mitigation:* Due to a lack of occupied or suitable habitat, the proposed action would have "No Effect" to any listed plant species and "No Impact" to any BLM sensitive plant species.

#### *Finding on the Public Land Health Standard for Threatened & Endangered Species:*

A formal Land Health Assessment has not been completed for the area. The proposed action should have little bearing on the project areas or watersheds ability to meet, move towards meeting, or maintaining Standard 4 for Special Status Species.

#### WASTES, HAZARDOUS OR SOLID

*Affected Environment:* Vehicle and equipment fuel and lubricants would be used for mechanical and equipment operations and transportation during project implementation.

In addition, herbicides would be used to treat cut stumps to slow re-growth. The herbicide triclopyr, which is sold under the trade name Garlon 4 and another chemical sold under the trade name of Arsenal are the most likely herbicides that would be used although other herbicides could be used.

#### *Proposed Action*

Environmental Consequences/Mitigation: Fuels and lubricants would be stored in appropriate containers and refueling would likely occur in designated areas. The herbicides would be promptly applied to cut stumps using daubers and/or hand sprayers. These herbicides could also be sprayed on re-sprouting leaves the following growing season. The product Garlon 4 would be mixed with mentholated seed oil (approximately 3:1) and the product Arsenal would be mixed with water. An approved Pesticide Use Proposal (PUP) is required as standard BLM policy to apply herbicides on public land. The approval of a PUP requires that all personnel applying herbicides must be licensed by the Colorado State Department of Agriculture or be under the direct supervision of a licensed applicator. In addition, the PUP contains other specifications as needed to address environmental concerns using the specific herbicide. A copy of the Specimen label and Material Safety Data Sheet for Garlon 4 are attached to the project file and would be followed for application procedures and safety measures.

Based on the distance of the proposed treatment unit from area drainages, the existing slope angle, and good vegetative cover; it is unlikely that fuels, lubricants, or herbicides would be transported to area drainages. In addition, the proposed treatment unit is separated from drainages by existing road features and housing developments. Landscaping, and storm-water controls associated with these features could serve as additional points of interception to prevent contaminants from reaching Four-mile Creek to the east and the unnamed ephemeral tributary to the south of the proposed treatment unit.

#### *No Action*

Environmental Consequences/Mitigation: Under the no action alternative there would be no fuel or lubricants present associated with vehicles and equipments and herbicide application would not occur.

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

Affected Environment: Proposed activities would be located south of the City of Glenwood Springs within the 9,375 acre Lower Fourmile Creek 6<sup>th</sup> field watershed. More specifically, the proposed treatment unit would be located approximately 1,000 feet west of the perennial Fourmile Creek, which is tributary to the Roaring Fork River approximately 4.25 miles to the north. Approximately 400 feet south of the proposed treatment unit is an unnamed ephemeral tributary to Fourmile Creek. Both of these drainages are separated from the treatment unit by road features and housing developments. There are no mapped springs, lakes, or major drainages within the proposed treatment unit.

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, a *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, and a *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94) that identifies waterbodies suspected to have water quality problems. At this time, Fourmile Creek and the unnamed ephemeral tributary are not within any particular segment on the above lists. In addition, there are no current water quality data available for these drainages.

#### *Proposed Action*

Environmental Consequences/Mitigation: 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 and herbicide application to reach area drainages.

Based on the distance of the proposed treatment unit from area drainages, the existing slope angle, and good vegetative cover; it is unlikely that sediment, fuels, lubricants, or herbicides would be transported to area drainages. In addition, the proposed treatment unit is separated from drainages by existing road features and housing developments. Landscaping, and storm-water controls associated with these features could serve as additional points of interception to prevent contaminants and sediment from reaching Fourmile Creek to the east and the unnamed ephemeral drainage to the south of the proposed treatment unit. Furthermore, no site specific mitigation is being recommended besides following the burn plan, the terms of the PUP, and basic BMPs associated with burning activities and erosion control.

#### *No Action*

Environmental Consequences/Mitigation: Under the no action alternative, no fuels reduction activities would occur which could leave the area susceptible to possible wildfire hazard in the future. In the event of a wildfire, potential negative impacts associated with denuded groundcover, hydrophobic soils, and sediment transport would be much greater than negative impacts associated with the proposed activities.

Analysis on the Public Land Health Standard for Water Quality: The proposed action and no action alternative would not likely prevent Standard 5 for Water Quality from being achieved.

## WILD AND SCENIC RIVERS

Affected Environment: There are no wild and scenic rivers within the project area.

Environmental Consequences/Mitigation: N/A

## WILDERNESS

Affected Environment: There are no designated Wilderness areas, Wilderness Study Areas or citizen's wilderness proposal areas within the proposed project area.

Environmental Consequences/Mitigation: N/A

## NON-CRITICAL ELEMENTS

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

### SOILS (includes a finding on 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 two soil map units: Cochetopa-Antrobus association and Jerry loam. The majority of the proposed treatment unit is mapped as Jerry loam with only a small portion along the southern boundary of the treatment unit being mapped as Cochetopa-Antrobus association. These soil map units are described as having rapid surface runoff and moderate water erosion hazard. In addition, only approximately 4.9 acres of the proposed treatment unit would occur on slopes between 30 and 50% with the remaining acreage occurring on slopes less than 30%. Following is a brief description of the two soil map units encountered in the proposed treatment unit.

- Cochetopa-Antrobus association – This soil map unit is found on mountainsides at elevations from 8,500 to 10,500 feet and on slopes of 25 to 50 percent. Approximately 45 percent of this unit is Cochetopa loam and 40 percent of this unit is Antrobus very stony loam. The other 15 percent of this unit is composed of other soil types. The Cochetopa soil is deep, well drained and derived from basaltic alluvium and colluvium. The surface runoff is rapid and the water erosion hazard is moderate to severe. The Antrobus soil is deep, well drained and derived from basaltic alluvium and colluvium. The surface runoff is rapid and the water erosion hazard is moderate. Primary uses for this soil map unit include rangeland and homesite development.
- Jerry loam – This deep, well drained soil is found on alluvial fans and hills at elevations ranging from 7,500 to 9,500 and on slopes of 25 to 65 percent. This soil is derived from sandstone and shale alluvium. Surface runoff is very rapid and the water erosion hazard is moderate. This soil is used primarily for rangeland purposes.

Environmental Consequences/Mitigation: 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.

Based on the distance of the proposed treatment unit from area drainages, the existing slope angle, and good vegetative cover; it is unlikely that sediment would be transported to area drainages. In addition, the proposed treatment unit is separated from drainages by existing road features and housing developments. Landscaping, and storm-water controls associated with these features could serve as additional points of interception to prevent sediment from reaching Fourmile Creek to the east and the unnamed ephemeral drainage to the south of the proposed treatment unit. Furthermore, no site specific mitigation is being recommended besides following the burn plan and basic BMPs associated with burning activities and erosion control.

No Action:

Environmental Consequences/Mitigation: Under the no action alternative, no fuels reduction activities would occur which could leave the area susceptible to possible wildfire hazard in the future. In the event of a wildfire, potential negative impacts associated with denuded groundcover, hydrophobic soils, and sediment transport would be much greater than negative impacts associated with the proposed activities.

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.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Vegetation in the project area consists of fairly dense thickets of Gambel's oak and serviceberry with smaller patches of big sagebrush.

Environmental Consequences/Mitigation:

Proposed Action: A 71-acre parcel of BLM land adjacent to the Oak Meadows subdivision would be treated to reduce the height and density of woody vegetation. The first 200 foot strip of oakbrush and serviceberry along the boundary with private land would be thinned between 30 and 70% below current levels, leaving behind islands or patches of oak. Beyond the 200 foot strip, the treatment would involve removing approximately 30% of the brush.

Treatments would include cutting primarily oakbrush and serviceberry with heavy equipment or hand tools. The residual slash could be chipped or piled and burned. Herbicide would be applied only to the hand cut stumps along the public/private boundary. This would be limited to approximately 10 acres of the 71 acres.

In areas where the heavy equipment is used, there may be some loss of non-target vegetation due to trampling by the machinery. Soil compaction would be minimal since operations would not take place when soils are saturated. Litter would increase in the

project area due to the shredding or mulching of oakbrush and serviceberry. Shrubs that are hand-cut would likely be chipped or piled and burned. The increase in litter is not expected to be substantial enough to inhibit recovery or germination of herbaceous vegetation.

The herbicides Arsenal (imazapyr) or Garlon4 (triclopyr) would be applied to the hand-cut stumps immediately following cutting and/or to resprouting stems later in the treatment year or the year following the mechanical treatment.

Imazapyr, at typical use rates, remains active in the soil for up to three years when applied to dry ground. Imazapyr is toxic to almost every plant it comes in contact with, as it kills by inhibiting the enzyme plants use to synthesize amino acids. Application of imazapyr can cause damage to non-target plants if it contacts foliage or enters the soil and comes into contact with their roots in sufficient quantity. (Bell, 1997). With proper application of this herbicide according to the Product Label and appropriate application rates, there should be little damage to non-target plants.

Triclopyr is a broadleaf herbicide that imitates a plant hormone, causing the growing tips of the plant to elongate, followed by distortion, withering, and the death of the plant. Triclopyr is selective (most toxic to broadleaf plants) because grasses are quickly able to transform triclopyr into compounds that do not have hormonal activity. Although triclopyr may damage non-target broadleaf plants (such as forbs), these plants are expected to recover fairly rapidly since the persistence of the herbicide is less than two years. (Langeland and Meisenburg, 2005).

The proposed treatment would change the structure and composition of the vegetative community in the project area. The height of oakbrush and serviceberry shrubs would be reduced, and the density and canopy cover of these shrubs would be thinned. Sagebrush would not be targeted for treatment and there should be little or no impact to this community. Grasses and forbs would likely increase following treatment due to the removal of competition from shrubby species.

Most, if not all, of the treatment area would recover naturally from seed sources on site. If it is deemed necessary to seed certain portions of the project area, native seeds which are adapted to the site and certified weed-free would be used.

#### No Action:

No mechanical fuels reduction activities or herbicide treatments would occur. The susceptibility of the area to a possible wildfire would remain higher than under the Proposed Action. If a wildfire does occur, the severity and areal extent of the fire may be greater than under the Proposed Action since fuel loading and continuity would remain high. Potential negative impacts associated with wildfire include temporarily denuded groundcover, hydrophobic soils, and increased susceptibility to noxious weed invasions.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): A formal land health assessment

has not been conducted on the project area. The proposed action would not likely prevent Standard 3 for healthy plant communities from being achieved.

#### WILDLIFE, AQUATIC (includes a finding on Standard 3)

##### Affected Environment:

The project area is located between two small ephemeral drainages that feed Fourmile Creek. The project is within 0.2 miles of Fourmile Creek. Fourmile Creek contains rainbow and brown trout and mottled sculpin. In addition, the stream contains a diverse and abundant aquatic insect population.

##### Environmental Consequences/Mitigation:

##### Proposed Action:

Proposed treatment activities would remove some vegetation but result in very little if any bare ground. However, work could alter soil conditions through compaction and displacement 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 potential for herbicides to reach area drainages.

According to the label on the herbicide Triclopyr (Garlon 4): “This product is highly toxic to fish, aquatic plants and aquatic invertebrates and is not labeled for application to water surfaces. Keep out of wetlands, lakes, ponds, streams, rivers and wildlife habitats at the edge of bodies of water. Do not contaminate water by cleaning of equipment or disposal of wastes. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or where the depth to the water table is shallow.”

Based on topography, good vegetative cover, housing development buffer, and amount and method of herbicide treatment, it is unlikely that any contaminants would be transported to area drainages. The proposed treatment unit is small and is separated from drainages by existing road features and the housing development. Landscaping, and storm-water controls associated with these features could serve as additional points of interception to prevent contaminants and sediment from reaching Fourmile Creek. Impacts should be minimal assuming the burn plan, the terms of the Pesticide Use Permit (PUP), and basic BMP’s associated with burning activities and erosion control are adhered to and implemented as appropriate.

##### Mitigation:

A buffer zone should be maintained to avoid overspray and drift of herbicides into streams or drainages. Herbicide spraying should be avoided during windy conditions to avoid potential drift to nearby Fourmile Creek.

**No Action:**

Under the no action alternative, no fuel treatment would occur. No impacts to aquatic wildlife would result.

**Finding on the Public Land Health Standard 3 for Plant and Animal Communities (partial, see also Vegetation and Wildlife, Terrestrial):**

A formal Land Health Assessment has not been completed for the area. The proposed action should have minimal bearing on the projects or watersheds ability to meet, move towards meeting, or maintaining Standard 3 for aquatic wildlife.

**WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)**

**Affected Environment:**

The Oak Meadows project area consists primarily of oakbrush/mixed mountain shrub with small patches of sagebrush. These communities typically provide habitat for big game species as well as small mammals, reptiles and birds, including black bears and wild turkeys. Both mule deer and elk utilize the area during moderate winters

**Environmental Consequences/Mitigation:**

The Proposed Action would mimic natural disturbances and improve the overall health and vigor of the ecosystem. Mechanical treatments of oakbrush would create a mosaic of seral stages and open dense stands, allowing oakbrush to resprout. In addition, as shrub canopy is reduced, understory grass and forb density and diversity should improve. Sagebrush would not be targeted for treatment and there would be little or no impact to this community.

It is likely that the use of heavy equipment during treatment implementation would result in some short term disturbance to resident wildlife. Some species will be temporarily displaced from the area to adjacent habitats, but would return once the treatment is completed.

Herbicide would be applied to the hand cut stumps along the public/private boundary. This would be limited to approximately 10 acres. Herbicide treatment would have minimal impacts to wildlife species. Imazapyr is not considered to be very toxic to mammal or birds and therefore this herbicide would pose a very low risk terrestrial wildlife species ([www.epa.gov/oppsrrd1/REDS/imazapyr\\_red.pdf](http://www.epa.gov/oppsrrd1/REDS/imazapyr_red.pdf) - May 2, 2008). Triclopyr is slightly toxic to birds and practically non-toxic to mammals. This herbicide can slightly influence reproductive success for both birds and mammals (<http://www.epa.gov/oppsrrd1/REDS/2710red.pdf> - May 2, 2008). This impact is

expected to be minimal and isolated and would not influence wildlife populations on a landscape level.

*No Action Alternative:* There would be no impacts to terrestrial wildlife species or their habitat from the No Action Alternative.

Finding on the Public Land Health Standard 3 for Plant and Animal Communities (partial, see also **Vegetation and Wildlife, Terrestrial**):

A formal Land Health Assessment has not been completed for this area. The Proposed Action would improve wildlife habitat and should contribute towards meeting this standard.

**OTHER NON-CRITICAL ELEMENTS:** For the following elements, those brought forward for analysis will be formatted as shown above.

<b>Table 2. Other Resources Considered in the Analysis.</b>			
<i>Resource</i>	<i>NA or Not Present</i>	<i>Present and Not Affected</i>	<i>Present and Affected</i>
Access and Transportation			X
Cadastral Survey			
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		

**NOISE**

**Affected Environment:** The proposed treatment unit would be in close proximity to the Oak Meadows Subdivision which is located approximately 5 miles south of the City of Glenwood Springs in the Fourmile Creek area.

*Proposed Action*

**Environmental Consequences/Mitigation:** Fuels reduction activities would result in noise production from handcutting activities with chainsaws and mechanical treatment

operations. The handcutting activities would occur adjacent to the proposed treatment unit boundary and would have the most impact on nearby residents. Mechanical operations would most likely be heard as well but would occur at greater distances from the residential area. To mitigate negative impacts associated with noise, these noise generating activities would occur between 8:00am and 6:00 pm Monday through Sunday.

*No Action*

Environmental Consequences/Mitigation: While the no action alternative would have no effect on area noise, it would result in increased wildfire potential.

**VISUAL RESOURCE MANAGEMENT:**

Affected Environment: The proposed project area is located in area's classified as VRM Class II and III in the GSRA 1984 Resource Management Plan. The objective of VRM Class II is to retain the existing characteristic landscape. The level of change in any of the basic landscape elements (line, form, color, texture) due to management activities should be low and not evident.

The Key Observation Point (KOP) used for this analysis is County Road 117.

Environmental Consequences/Mitigation:

The proposed action includes an objective to "mimic a natural mosaic pattern of oakbrush and open sagebrush parks already existing throughout the landscape." All clearing activities would include feathered lines and boundaries. The project would maintain the existing landscape character and not create long term disturbances within the landscape as viewed from the KOP. The proposed action and implementation items would meet VRM Class II and III objectives, therefore no mitigation is required.

CUMULATIVE IMPACTS SUMMARY:

PERSONS / AGENCIES CONSULTED:

Ron Biggers Glenwood Springs Fire Marshal  
Lee Rickard, Central Zone Fire Management Officer  
Phil Nyland, U.S.F.S. Wildlife Biologist  
Desa Ausmus, B.L.M. Wildlife Biologist  
Oak Meadows HOA  
Oak Meadows Water Board

**Public Involvement:**

An informative mailer was mailed out to all subdivision address and adjacent landowners on Jan. 22, 2008. This mailer addressed information on the proposed action and served as an invitation to a public open house held in regards to the project. A news release on the proposed project was in two of the local papers, the Post Independent ran a article on Feb.24, 2008, and a smaller article again on Feb. 26, 2008. The Aspen daily News ran a public meeting follow up article on March 3<sup>rd</sup>, 2008. A public open house on the proposed project was held on Feb. 28, 2008. Approximately 30 people attended the informative meeting and no opposition to the project was presented. The proposed action was discussed with Sloan Shoemaker of the Wilderness Workshop on 3/20/2008. No issues were brought up in the discussion.

**INTERDISCIPLINARY REVIEW:**

<i>Name</i>	<i>Title</i>	<i>Responsibility</i>
Cheryl Harrison	Archeologist	Cultural and Native American Concerns
Kay Hopkins	Outdoor Recreation Specialist	Recreation, Travel Management, Visual
Ody Anderson	Fuels Specialist	Fire and Fuels, writer and editor
Desa Ausmus	Wildlife Biologist	Wildlife, T/E/S Wildlife
Phil Nyland	U.S.F.S. Biologist	U.S.F.S. Biology
Peech Keller	U.S.F.S. NEPA Coordinator	U.S.F.S. NEPA Coordination
Jeff O'Connell	Hydrologist	Soil, Air, Water, Geology
Carla DeYoung	Ecologist	Land Health Stds, Vegetation, T/E/S Plants

**Name of Prepare:** Alton Anderson, Fuels Specialist, Bureau of Land Management

**References**

Bell, C.E. 1997. Using Arsenal for Brushy Species Control, *Proceedings of the 1997 Symposium of the California Exotic Pest Plant Council*, p. 1-3.  
[http://www.cal-ipc.org/symposia/archive/pdf/1997\\_symposium\\_proceedings1938.pdf](http://www.cal-ipc.org/symposia/archive/pdf/1997_symposium_proceedings1938.pdf)

Bradford, Andrews. 2004 Vegetative Treatments and Their Potential Effects to Cultural Resources. Alpine Archaeological Consultants, Montrose, Colorado.

Langeland, K.A. and M. J. Meisenburg. Professional Applicator's Guide to Herbicides for Melaleuca Control, SS-AGR-258, Florida Coop Extension Service,

## FONSI

### CO-140-2009-0002

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 approve and implement this proposed action with the mitigation measures listed below being taken into consideration.

### RATIONALE:

This proposed action will reduce fuel loading adjacent to private property. The proposed action will also reduce the risk of a wildfire burning from BLM administered land on to private property and improve safety to the public and firefighter in the event of a wildfire.

2. *The environmental impacts have been mitigated with measures included in the attached stipulations.*

### MITGATION MEASURES:

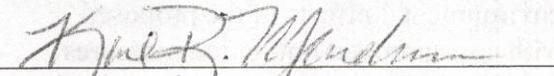
1. Heavy mechanical equipment will not be used until after July 1<sup>st</sup> to minimize impacts to migratory birds.
2. All equipment will be washed before entering project unit.
3. If inadvertent discovery of Native American Remains or Objects occurs, activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice made to the BLM Authorized Officer.
4. Any burning of fuels will be conducted under an approved and signed burn plan.
5. A PUP (Pesticide Use Proposal) shall be used for herbicide spraying.

### COMPLIANCE/MONITORING:

1. The treatment area would be monitored for two growing seasons after project completion for the presence of noxious weeds on the Colorado State List A or B (except redstem filaree) and if found would be promptly treated.
2. Project will be monitored for the need of future maintenance treatments to prolong affect of project.

NAME OF PREPARER: Ody Anderson

SIGNATURE OF AUTHORIZED OFFICIAL:

  
Karl R. Mendonca  
Supervisory Natural Resource Specialist

10/9/2008  
Date

APPENDICES: Location map, drawings and specifications

# Oak Meadows Fuels Reduction Project

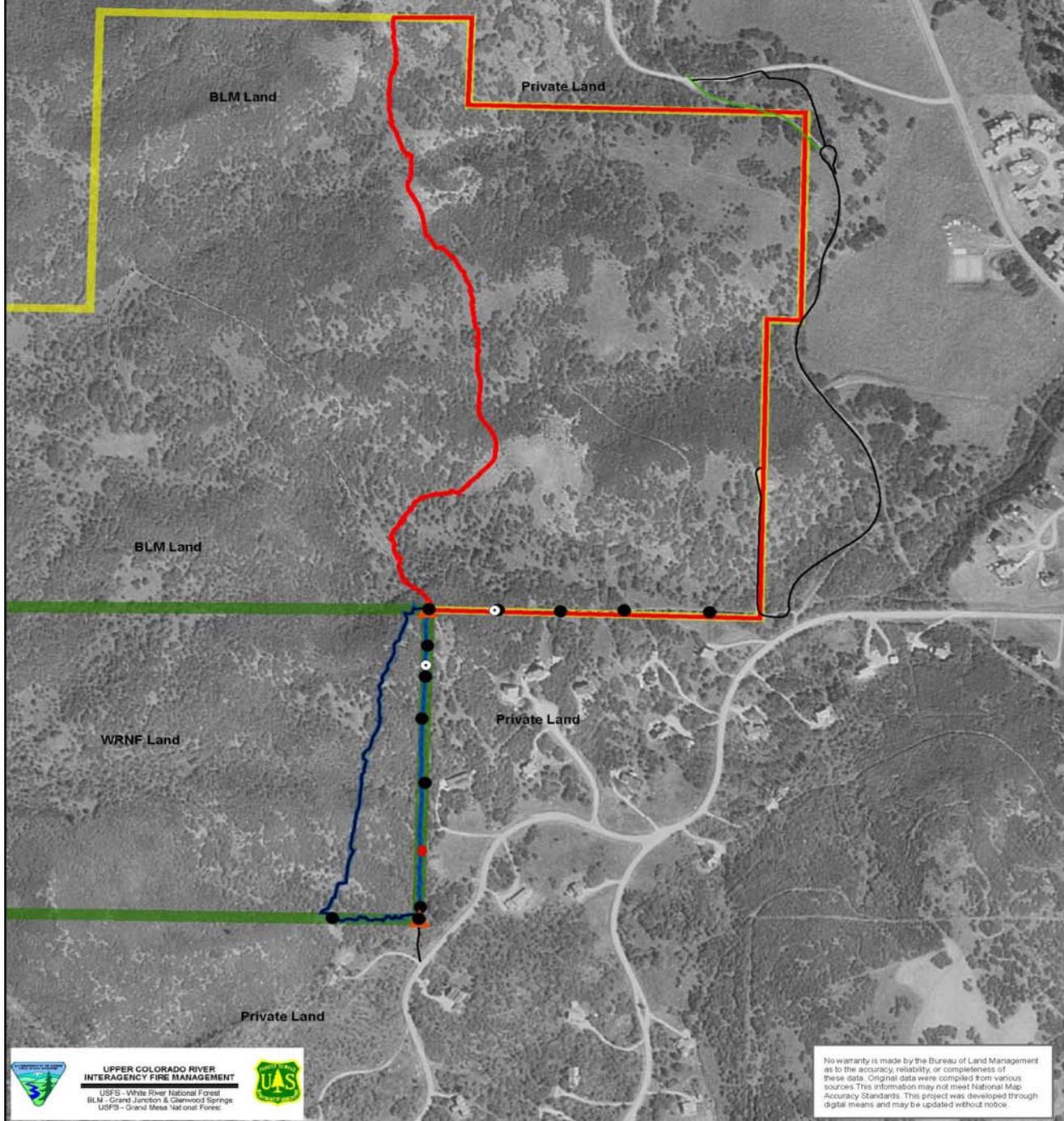
T7S, R98W

-  Fire Hydrant
-  Man Hole
-  Power Pole
-  Survey Marker
-  Forest Service Unit - 6.7 acres
-  BLM Unit - 71 acres
-  Railroad Grade
-  Road
-  Trail
-  BLM Boundary
-  USFS Boundary

Scale 1:4,800  
1 inch equals 400 feet




Map created by the UCRIFMU, 08/01/05  
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