

**U.S. Department of the Interior
Bureau of Land Management
Little Snake Field Office
455 Emerson Street
Craig, CO 81625-1129**

ENVIRONMENTAL ASSESSMENT

EA-NUMBER: DOI-BLM-CO-N010-2010-100-EA

PERMIT/LEASE NUMBER: N/A

PROJECT NAME: Bears Ears Prescribed Fire Fuels Reduction Project

LEGAL DESCRIPTION: The project is located in all or a portion of the following sections:

6th PM, T9N, R100W, sections 11, 12, 13, and 14.

APPLICANT: BLM

LAND USE PLAN CONFORMANCE REVIEW

Name of Plan: Little Snake Resource Management Plan and Record of Decision

Date Approved: April 26, 1989

Results: The majority of the treatment area falls within Management Unit 3: The management objectives for this unit, as outlined in the Little Snake Resource Management Plan, are to improve soil and watershed values, increase forage production, and enhance livestock grazing. The development of other resource uses/values within this unit is allowed consistent with the management objectives for livestock grazing, forage production, soil, and watershed resource objectives. The proposed alternatives are in conformance with the objectives of the Little Snake Resource Management Plan.

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The proposed action was reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The proposed action is in conformance with the objectives for this management unit.

RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS

Name of Plan: Northwest Colorado Fire Management Program Area Fire Management Plan

Date Approved: 1/2003 (updated and approved annually)

Results: The proposed action falls within a D-1 polygon, West Little Snake and

Disappointment. The vegetation description, as identified in the Fire Management Plan, of this polygon is described as supporting a mix of pinyon-juniper, sagebrush and mountain shrub. The resource management objective of the Fire Management Plan for this fire polygon is to encourage fire to promote mosaic age classes in all plant communities. The proposed action is consistent with the objectives for this fire polygon.

NEED FOR PROPOSED ACTION: In accordance with the National Fire Plan of 2000, public land agencies are directed to take actions to reduce hazardous fuels in order to reduce the risks of catastrophic wildland fire to people, communities, and natural resources while restoring forest and rangeland ecosystems to closely match their historical structure, function, diversity, and dynamics. The Northwest Colorado Fire Management Program Area Fire Management Plan identifies areas where fuels reduction treatments are desired and needed. The resource management objective for the proposed project area (D-1 Fire Polygon) is to encourage fire to promote mosaic age classes in plant communities. A large portion of the project area has varying degrees of juniper encroachment into the otherwise sagebrush/grass dominated site. Treating this area now before the juniper becomes dominant and also reducing sagebrush cover will reduce the threat of larger more intense fires in the area. This will also move toward establishing a mosaic of vegetation and age classes on the landscape. The implementation of this project would improve wildfire protection for cultural resources found throughout the area and provide more opportunities to allow future fires to burn for resource benefit.

PUBLIC SCOPING PROCESS: The project is listed on the NEPA log on the Little Snake Field Office website: http://www.blm.gov/co/st/en/BLM_Information/nepa/lso.html. The grazing permittee has been contacted and is supportive of the proposed action.

BACKGROUND: The project is located on a high ridge 1 mile east of the Bears Ears in a remote section of western Moffat County at an elevation of 6820' to 7490'. The project area is characterized by rolling terrain dominated by sagebrush/grass with varying degrees of juniper encroachment. Approximately 45 acres of the 400 acres is moderate to older aged pinyon/juniper.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

PROPOSED ACTION:

It is proposed to reduce hazardous fuels on 400 acres through the use of prescribed fire and/ or mechanical means, although prescribed fire is the preferred method. Approximately 40% - 70% of the area within the identified area would be treated (160-280 acres). Prescribed burning would occur in the spring or late summer/fall whereas mechanical treatments may be conducted any time of year. No activities would be allowed from May 15 – July 15 due to migratory birds or during muddy conditions. The grazing permittee would avoid using the area for grazing for two growing seasons after treatment although the pasture would not be closed. Following is a description of the proposed treatment methods:

Prescribed Fire:

Existing roads and natural barriers would be used for holding lines with the exception of

approximately 1100' of two foot wide fire line which would need to be constructed on the southeast corner (see map). Water bars would be constructed in the fire line on slopes greater than 15%. No fire line would be constructed until cleared by the LSFO cultural resources staff.

Any area proposed for prescribed burning consists of a target area and a larger project area. The target area is the area intended to be treated. The project area is a larger surrounding area where fire may burn into under specific criteria without being declared a wildfire but is not intended for treatment. In this case, any fire occurring outside the target area would be aggressively suppressed. The burn boss may declare the prescribed fire a wildfire at any time he/she feels the fire is beyond the capability of available resources to manage.

A prescribed fire plan prepared in accordance with the Interagency Prescribed Fire Planning and Implementation Procedures Guide is required for all prescribed burns. This plan describes exactly how and under what conditions prescribed burning would occur in order to meet the objectives described above. The prescribed fire would also be conducted in accordance with the State of Colorado Smoke Management Plan and MOU, and would be regulated under Colorado Department of Public Health and Environment, Air Pollution Control Division. The Air Pollution Control Division issues an open burning permit, which specifies smoke dispersal conditions and other stipulations under which burning may occur.

Brush Beating:

This is basically a heavy duty mower pulled behind a rubber tired tractor. It is typically used in flat to gently rolling sagebrush areas. Brush would be mowed to a height of 3 to 4 inches. Islands or strips of vegetation from 0.5 to 5 acres would be left untreated to mimic a mosaic pattern that a fire might leave under low to moderate conditions.

Tree Mastication:

Individual trees are shredded with either a horizontal carbide toothed drum or a rotary device similar to a very large mower. The mastication implement is mounted on a tracked skid-steer or a large rubber tired tractor (similar to a skidder). It generally leaves small branches and pieces of wood from pencil size up to bowling ball size that are scattered in the vicinity of the tree.

NO ACTION ALTERNATIVE: Under this alternative, no hazardous fuel reduction activities would occur.

ALTERNATIVES CONSIDERED BUT NOT BROUGHT FORWARD FOR ANALYSIS:

A chemical alternative using herbicides to kill woody vegetation was considered as a treatment option but dropped from further analysis because of the high volume of woody material left after treatment. Chemical treatment would not fully achieve hazardous fuels reduction objectives and visual resources would be impacted.

AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION

For the following resources and issues, those brought forward for analysis will be addressed below.

Resource/Issue	N/A or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Air Quality			X
Areas of Critical Environmental Concern	X		
Cultural Resources			X
Environmental Justice/ Socio-Economics		X	
Flood Plains	X		
Fluid Minerals	X		
Forest Management			X
Hydrology/Ground	X		
Invasive, Non-native Species			X
Native American Religious Concerns			X
Migratory Birds			X
Paleontology			X
Prime and Unique Farmland	X		
Range Management			X
Realty Authorizations		X	
Recreation/Transportation		X	
Soils			X
Solid Minerals		X	
T&E and Sensitive Animals			X
T&E and Sensitive Plants	X		
Upland Vegetation			X
Visual Resources		X	
Wastes, Hazardous or Solid			X
Water Quality - Ground		X	
Water Quality - Surface		X	
Wetlands and Riparian Resources	X		
Wild and Scenic Rivers	X		
Wilderness Characteristics/WSAs	X		
Wildlife, Aquatic	X		
Wildlife, Terrestrial			X

AIR QUALITY

Affected Environment: There are five federal Class I areas within 100 kilometers of the Little Snake Resource Management Area boundary, all of which occur in Colorado. There are no federal Class I areas in Utah or Wyoming within 100 km of the LS RMA boundary. There are no non-attainment areas nearby that would be affected by either alternative.

Environmental Consequences, Proposed Action: Prescribed and wildland fires can contribute

substantial emissions of air quality pollutants including particulate matter, volatile organic compounds, and carbon monoxide. However, prescribed fires are typically smaller than uncontrolled wildfires occurring during peak burning conditions. Prescribed fires involve less combustion, and therefore less total smoke emissions, since they are typically conducted under conditions when larger fuels (>3" diameter) are not consumed. Prescribed fires are also conducted under atmospheric conditions that promote air pollutant dispersion.

Landscapes treated with prescribed fire and other fuel reduction treatments are expected to cause fewer air quality impacts both in the short and the long term because of the incremental reduction of fuels and the periodic release of small amounts of air quality pollutants. Pollutant emissions released at this smaller scale are not expected to cause air quality impairment to urban areas or Class I areas, or if they do would be of a much shorter duration.

The proposed prescribed fire would be conducted in accordance with existing laws that protect air quality. Specifically, all fire activities must comply with the applicable air quality regulations required by FLPMA and the Clean Air Act.

Mechanical treatments proposed would not be expected to affect air quality other than localized short term dust production.

Environmental Consequences, No Action Alternative: The direct environmental consequences associated with fuels reduction activities would be absent in the no action alternative. However, in the long term it would be possible to have a substantially greater air quality impairment episode as a result of increasing the potential for large scale uncontrolled wildfires. A large fire in this area has the potential to impact air quality of urban areas and reduce visibility within the five Class 1 areas.

Mitigative Measures: None

CULTURAL RESOURCES

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resources Series, Number 20, *An Isolated Empire, A History of Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resource Series, Number 2 and *Colorado Prehistory: A Context for the Northern Colorado River Basin*, Colorado Council of Professional Archaeologists.

Environmental Consequences, Proposed Action: Elements of fuels reduction projects are considered undertakings under Section 106 of the National Historic Preservation. BLM has the legal responsibility to take into account the effects of its actions on historic properties located on Federal land. BLM Manual 8100 Series, the Colorado State Protocol and BLM Colorado Handbook of Guidelines and Procedures for Identification, Evaluation, and Mitigation of Cultural Resources provide guidance on how to accomplish Section 106 requirements with the appropriate cultural resource standards

Impacts from prescribed fire are largely associated with fire management activities. Fireline construction (hand line or bulldozer), establishment of helicopter bases, fire camps, and related activities can all impact cultural resources. All of these activities involve ground disturbing activities which can destroy the integrity of a site. Impacts from mechanical treatment involve the use of heavy tracked and rubber tired vehicles which can involve substantial ground disturbance which can destroy the integrity of a site. Prehistoric and historic structures are also threatened by mechanical treatment particularly those which are hard to identify from the natural environment such as wickiups. Scattered mulch has the potential to protect sites from the elements but does impact integrity. The piling of slash piles can also impact integrity of a cultural resource particularly if a pile is placed on a site or near a historic structure detracting from its integrity. Slash piles are usually removed or burned. Secondary impacts from prescribed fire and mechanical treatment include increased visibility of surface artifacts until vegetation returns. This increased visibility can lead to artifact collecting by recreationalists and artifact hunters. Other secondary impacts to cultural resources include tree fall and increased erosion.

The proposed project has undergone a Class III cultural resource survey:

Morton, Ethan, Gary D. Collins, and Kellie Looper

2011 *A Class III Cultural Resource Inventory of the Proposed Bears Ears Fuels Reduction Project, BLM-Little Snake Field Office Moffat County, Colorado.* BLM-LSFO#10.42.2011. OAH#MF.LM.R920. Bureau of Land Management Little Snake Field Office, Craig, Colorado.

This study did not identify any archaeological or historical sites eligible for the National Register within the area of potential effect for the proposed undertaking. The proposed undertaking will have no effect on historic properties. It may proceed as described with the following standard mitigative measures in place.

Mitigative Measures, Proposed Action:

1. Any cultural and/or paleontological (fossil) resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the authorized officer will make any decision as to proper mitigation measures after consulting with the holder.
2. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
 - The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
 - Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
3. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Environmental Consequences, No Action Alternative: The direct environmental consequences associated with fuels reduction activities would be absent in the no action alternative. However, the increased potential for large scale uncontrolled wildfires if no prescribed fire or mechanical thinning was undertaken increases the risk to any structural archaeological or historic sites in the area. Increased erosion after a large scale fire also has the potential to adversely affect buried cultural material.

Mitigative Measures, No Action Alternative: None

ENVIRONMENTAL JUSTICE

Affected Environment: Executive Order 12898 (20) requires federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety effects on minority and low-income populations. Minorities comprise a small proportion of the population residing inside the boundaries of the Little Snake Field Office.

Environmental Consequences, both alternatives: No minority or low income populations would be directly affected in the vicinity of the proposed action.

Mitigative Measures: None

FORESTRY

Affected Environment: The majority of the project area contains scattered individual Utah juniper trees. With a few exceptions, these trees are relatively young (<100 years) and small in

size. A small area on the southern side of the project contains moderate to old juniper trees with a few pinyon pine mixed in. Presently there is little to no commercial or personal use value associated with these trees due to the remoteness of the site.

Environmental Consequences, Proposed Action: Removing trees within the project area would halt the steady encroachment of pinyon and juniper that has been occurring since the last disturbance. The site is not considered a woodland site with the exception of the 45 acre area along the southern boundary; therefore it is appropriate to remove these trees in the absence of some other natural disturbance.

Environmental Consequences, No Action Alternative: Pinyon/juniper encroachment into the sagebrush/grass community will slowly continue in the absence of disturbance. Eventually the trees will become dense enough to reduce brush, grass, and forb productivity and diversity.

Mitigation Measures: None

INVASIVE, NONNATIVE SPECIES

Affected Environment: Invasive and noxious weeds are present in project area. Invasive annuals such as cheatgrass, halogeton and yellow allysum commonly occur. Additional invasive species of concern in the vicinity include white top, Canada thistle, knapweeds and other biennial thistles. These species are on the Colorado list B of noxious weeds. Cheatgrass is on the Colorado List C of noxious weeds. The BLM is in cooperation with the Moffat County Pest Management program to employ the principals of Integrated Pest Management to control noxious weeds on public lands.

Environmental Consequences, Proposed Action: Following a prescribed fire there is the potential for early seral stage species such as cheatgrass and allysum to establish. The threat is highest in areas with little desirable vegetation in the understory, thick duff, heavy fuels, and shallower soils, or burns conducted under extremely dry conditions. By removing vegetation, new areas are open to weed colonization. By conducting burns under moderate conditions in areas with adequate desirable understory vegetation, such as a prescribed burn, the threat of weed infestation would be minimized. Cheatgrass levels could be higher than pre-burn levels for the first couple of years following burning but should return to pre-burn levels or less after desirable grasses and forbs expand to take advantage of soil nutrients, water, and sun made available through the removal of woody species. Targeting the burn to achieve removal of 40 – 70% of the sagebrush and shrub cover would help prevent establishment by leaving a mosaic of desirable forbs and grasses to compete with the invasive weeds. Additionally, these desirable species would have more resources (light, nutrients) available to compete with invasive species.

The mechanical methods as proposed would cause little long term disturbance to the herbaceous plant community. Removing the tree cover would provide additional resources to the herbaceous understory that would improve vigor and production in the long term. Adequate desirable vegetation exists in the understory which would provide competition to prevent weed invasions as well as maintain a desirable plant community.

Environmental Consequences, No Action Alternative: No new opportunities for weed establishment would occur under this alternative. The increasing threat of intense large fires would still exist. Under this alternative the project area would have a greater fuel load in the tree canopy and the vigor and production of the understory would be limited. This would affect the ability of the plant community in the project area to recover and compete with invasive species if a wildfire were to occur.

Mitigative Measures: None

MIGRATORY BIRDS

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance towards meeting BLM's responsibilities under the Migratory Bird Treaty Act (MBTA) and Executive Order (EO) 13186. The guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts and restoring and enhancing habitat quality. The LSFO provides both foraging and nesting habitat for a variety of migratory bird species. Several species on the U.S. Fish & Wildlife Service (USFWS) List of Conservation Concern (2008) occupy these habitats within the LSFO.

Specific to the project area, native plant communities are comprised of pinyon-juniper woodlands and sagebrush stands with encroaching junipers. There are also scattered mixed-mountain shrubs in the higher elevation portion of the treatment. Two pinyon-juniper obligate species listed on USFWS's Bird of Conservation Concern (BCC) List, the pinyon jay and juniper titmouse may nest in the general project area. Other species associated primarily with this habitat type include ash-throated flycatcher, gray flycatcher and black-throated gray warbler. Several sagebrush species occurring on the BCC list that may utilize sagebrush in the project area are sage sparrow, sage thrasher and Brewer's sparrow (also a BLM sensitive species). Habitat quality for sagebrush species has been reduced due to the encroachment of juniper trees. There are no active raptor nests in the vicinity of the proposed action.

Environmental Consequences, Proposed Action: Since project activities would not be permitted during the nesting period (May 15 – July 15), there would be little chance of take from either the prescribed burn or mechanical treatment. Individual birds would likely be displaced from the area during project implementation due to noise and an increase in human presence. This disturbance would be minimal and short in duration.

Removal of pinyon and juniper trees via mechanical treatment or prescribed fire would set back succession and create openings in the woodlands, leading to an increase in grasses and forbs. This would favor migratory birds that utilize open forest habitats. Creating openings in the forest may also increase the likelihood of brood parasitism by cow birds. A prescribed fire may leave many standing snags and provide additional structures for cavity nesters. The removal of encroaching juniper trees would result in long-term benefits to sagebrush dependant bird species. The treatment would also open up older sagebrush stands, allowing for a more productive understory. This would improve habitat for species that utilize open sagebrush stands. The proposed fuels treatment would be compatible with maintaining suitable and productive habitat for sagebrush obligate species.

Environmental Consequences, No Action Alternative: No vegetation treatments would occur under the No Action Alternative. Over time, sagebrush habitats would continue to be lost as pinyon-juniper woodland expansion continues. This may improve conditions for pinyon juniper woodland species.

Mitigative Measures: None

NATIVE AMERICAN RELIGIOUS CONCERNS

Letters were sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Utes Tribal Council, Shoshoni Tribal Historic Preservation Officer, and the Colorado Commission of Indian Affairs in the spring of 2011 discussing upcoming projects the BLM would be working on in FY10 and FY11. Letters were followed up with phone calls. No comments were received (Letters on file at the Little Snake Field Office, Craig, Colorado).

PALEONTOLOGY

Affected Environment: The geologic formations at the surface are the Tertiary Bridger Formation (Tb) and the Tertiary age Browns Park Formation (Tbp). Tb is a soft gray, green, tan, red, brown, white, yellow, and turquoise-blue fluvial and lacustrine shale, mudstone, claystone, siltstone, and minor sandstone and limestone. Locally it is tuffaceous and contains silicified snail fossils and algal heads. Tbp is a white, light-gray, and tan, poorly to moderately consolidated, generally crossbedded, tuffaceous sandstone with subordinate conglomerate, siltstone, white crystal-poor rhyolitic air-fall tuff, and minor limestone. Both formations have been classified a Class I formation for the potential for occurrence of scientifically significant fossils.

Environmental Consequences, Proposed Action: Scientifically significant fossils are found frequently within this formation (Armstrong & Wolney, 1989). The potential for discovery of significant fossils within this formation is considered to be high. If any such fossils are located here, construction activities could damage the fossils and the information that could have been gained from them would be lost. The significance of this impact would depend upon the significance of the fossil. The proposed action could also constitute a beneficial impact to paleontological resources by increasing the chances for discovery of scientifically significant fossils.

The potential impact to paleontological resources is usually effectively mitigated by ceasing operations and notifying the Field Office Manager immediately upon discovery of a fossil during construction activities. An assessment of the significance is made and a plan to retrieve the fossil or the information from the fossil is developed.

The proposed action constitutes limited surface disturbance so as to make discovery of fossils by surface survey unlikely.

Mitigative Measures: This impact can be effectively mitigated by ceasing operations and notifying the Field Office Manager immediately upon discovery of a fossil during construction

activities. An assessment of the significance is made and a plan to retrieve the fossil or the information from the fossil is developed.

The majority of the terrain is covered with developed recent soils and vegetation. Therefore, a surface survey for paleontological resources will not be required.

Standard Discovery Stipulation

"If cultural or paleontological resources are discovered during exploration operations under this license, the licensee shall immediately notify the Field Office Manager and shall not disturb such discovered resources until the Field Office Manager issues specific instructions.

- a. Within 5 working days after notification, the Field Office Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.
- b. The cost of data recovery for cultural resources discovered during exploration operations shall be borne by the licensee, if the licensee is ordered to take any protective measures. Ownership of cultural resources discovered shall be determined in accordance with applicable law."

Environmental Consequences, No Action Alternative: No direct effects on paleontology are anticipated from selecting the No Action Alternative.

References:

Armstrong, Harley J. and Wolney, David G., 1989, Paleontological Resources of Northwest Colorado: A Regional Analysis, Museum of Western Colorado, Grand Junction, CO, prepared for Bur. Land Management, Vol. I of V.

Miller, A.E., 1977, Geology of Moffat County, Colorado, Colo. Geol. Survey. Map Series 3, 1:126,720.

RANGE MANAGEMENT

Affected Environment: The Proposed Action lies within the West Boone Draw Allotment (#04304). This allotment is permitted to Sombrero Ranches for domestic horse use from 12/01 through 5/15. There are no existing BLM range improvement projects on the public land parcels in this allotment in the area of the Proposed Action.

Environmental Consequences, Proposed Action: There should not be any short term impacts to the grazing operation as a result of the Proposed Action as it is not proposed to close the treatment area to grazing.

Environmental Consequences, No Action Alternative: If the Proposed Action is not selected, there is the potential for a large, stand replacement type fire to occur. A large wildfire could potentially close the allotment to livestock grazing from 2 to 5 years.

Mitigative Measures: None.

SOILS

Affected Environment: The table below (Table 1) describes the two soil types that occur within the proposed project area. The proposed project location was not included in the most recent Sandwash Landscape Health Assessment (2002), but two sites assessed near the project area demonstrated stable surface soil characteristics with a good grass/vegetation canopy to help protect from accelerated erosion. There was no evidence of erosion in the form of gullies, pedestals, flow patterns, or compaction. Biological soil crusts are present where appropriate and intact. A 2008 range utilization assessment in the proposed project area indicates little disturbance/grazing use by animals. Land capability classification states that the (nonirrigated) soil types are suitable for grazing, forestland, and/or wildlife habitat. The main hazard for both soil types is erosion unless close-growing plant cover is maintained.

Table 1. Soil Summary for the Bears Ears Prescribed Fire Fuels Reduction Project

Soil Map Unit (MU) & Soil Name (Acres in Allot.)	Map Unit Setting	Description
MU 90 Grieves-Crestman complex, 10 to 40% slopes 186 acres	<u>Elevation:</u> 6,000 to 7,200 feet <u>Mean annual precipitation:</u> 11 to 12” <u>Ecological Site:</u> Sandy Foothills and Sandy Juniper	These soils are somewhat excessively to excessively drained with moderately rapid permeability and medium to very high runoff potential. Available water capacity is very low to moderate and the soil profile is typically 18 to 60 inches deep.
MU 162 Rock River sandy loam, 3 to 12% slopes 162 acres	<u>Elevation:</u> 6,200 to 7,200 feet <u>Mean annual precipitation:</u> 11 to 13” <u>Ecological Site:</u> Rolling Loam	These soils are well drained with moderate permeability and medium runoff potential. Available water capacity is moderate and the soil profile is typically up to 60 inches deep.

Data taken from *Soil Survey of Moffat County Area, Colorado (2004)*.

Environmental Consequences, Proposed Action: The effects of burning are directly related to the duration and intensity of the fire as well as the on-site soil characteristics. An intense fire volatilizes excessive amounts of nitrogen and other essential nutrients, destroys organic matter, disrupts soil structure, alters the physical, chemical and biological properties of the soil and may induce water repellency. Erosion loss can permanently affect on-site productivity and cause undesirable off-site effects as well (Hafenfeld, Richard: *Mitigating the Adverse Impacts of Prescribed Burning, Cal-Neva Wildlife Transactions*, 1981). These effects can be lessened or avoided if the fire intensity and duration are predicted and controlled through the use of fire prescriptions. In order to lessen impacts to soil resources, the burn should take place (as planned) under weather and fuel conditions that result in low intensity fire (100TU/Sec./Ft. of fireline) with a maximum burning index (B.I.) of 38. Other measures that can be taken to lessen impacts to the soil resource and promote close-growing, herbaceous plant cover include burning when the soils are moist; limit new fireline construction to slopes of less than 40%; leave sparsely

vegetated areas on slopes of greater than 50% unburned, and to limit line construction as much as possible by making use of existing roads/trails, natural firebreaks and precipitation barriers.

Although the prescribed fire treatment is likely to increase soil erosion from the project area in the short term it is considered to be at an acceptable level compared to soil erosion that would inevitably occur with a large intensely burning wildfire. The fuels reduction treatments would allow fire to be reintroduced into sagebrush and juniper-dominated areas and improve the capability for wildland fires to be managed for fire use or additional use of prescribed fire to maintain the appropriate understory vegetation conditions.

Any vegetation management activity that causes mechanical soil disturbance can have negative impacts to soil productivity, nutrient cycling, soil cover, and vegetation recovery. These impacts are common to any type of soil disturbance. There is a risk of compaction from the equipment used in the project, which could increase surface flows and erosion, an identified hazard in this soil type. However, if cover limits are maintained and fuel break construction and maintenance methods that leave an understory canopy and minimize bare ground are used, these effects would be reduced. Effects would also be reduced if the treatment is only performed on dry ground, thereby decreasing ruts and new overland flow patterns.

Environmental Consequences, No Action Alternative: There would be no direct impacts to the soil resource if no actions are implemented. However, the threat of larger more intense fires occurring under extremely dry conditions exists if fuel reduction treatments are not implemented. The scale and duration of adverse soil effects would be much higher under the extreme burning conditions that exist for large fire occurrence.

Mitigative Measures: None

T&E SPECIES – ANIMALS

Affected Environment: There are no Endangered Species Act listed or proposed species that inhabit or derive important benefit from habitats within the project area. However, the fuels treatment is on the edge of habitat for greater sage-grouse, a BLM sensitive species and a candidate for federal listing. The closest known active sage-grouse lek is over 10 miles from the project and any use of the area would be incidental. The site was visited in June of 2010 and no sage-grouse sign was found.

Environmental Consequences, Proposed Action: Since the project area is on the edge of sage-grouse habitat and is of low quality due to the number of juniper trees, it has very little value to grouse in its current condition. Sagebrush cover in the treatment was estimated at over 40% and many shrubs are older, with very few younger sagebrush plants establishing. The Proposed Action would reduce sagebrush cover and increase the herbaceous component of the site. Sagebrush cover would be reduced in a mosaic fashion, with several islands providing cover and forage. This should improve the overall health and vigor of sagebrush stands within the project area. No more than 50% of sagebrush should be removed in the northern portion of the project, which is on the fringe of sage-grouse habitat. The removal of encroaching pinyon-juniper trees from sagebrush parks will maintain habitats for sagebrush dependant species.

Overall, sage-grouse may receive some benefit from the project, although since the treatment is on the fringe of sage-grouse habitat, benefits would be minimal.

Environmental Consequences, No Action Alternative: No mechanical treatments or prescribed burns would occur under the No Action Alternative. Over time, sagebrush habitats would continue to be lost as pinyon-juniper woodland expansion continues.

Mitigative Measures: On the north portion of the project area (~50 acres), maintain at least 50% of sagebrush cover while removing all juniper trees.

VEGETATION

Affected Environment: Two ecological sites occur in the area of the Proposed Action; Sandy Foothills and Rolling Loam. The Sandy Foothills site typically supports native vegetation consisting of antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, Indian ricegrass, bottlebrush squirreltail and needleandthread grass. The Rolling Loam site typically supports native vegetation consisting of Wyoming big sagebrush, small low rabbitbrush, Indian ricegrass, needleandthread, bottlebrush squirreltail and western wheatgrass. Utah juniper and pinyon pine are two species that are noted to invade both of these range sites. During a visit to the site of the Proposed Action, Wyoming big sagebrush was determined to comprise 40% of the plant composition; in some areas it was as high as 50%.

Environmental Consequences, Proposed Action: The Proposed Action would improve plant diversity by reducing the sagebrush component and increasing the re-sprouting of shrubs such as serviceberry. Removal of a portion of the sagebrush component would create additional resources (light, water, and nutrients) to become available to grasses and forbs in the understory. As a result, the grass and forb component of the community would colonize the interspaces and increase in production. This would decrease soil erosion and increase sediment holding capabilities. Additionally, the burning of vegetative litter through a prescribed burn would accelerate the nutrient cycling within the plant community

The proposed burn objective of 40-70% would improve the age class distribution of the vegetation. A mosaic type burn, as proposed, is most preferable for increasing the age and species diversity of a site. Sagebrush is susceptible to kill by fire while many forbs, grasses, and shrubs are only slightly damaged or relatively unharmed. Over time (10-20 years) the sagebrush would begin to reestablish. This treatment would improve the ability of the site to produce usable forage for livestock and wildlife. The productivity of this site also creates a large fuel load increasing the potential for large, uncontrolled natural fires that would impact human activities and dwellings in the area. The Proposed Action would reduce the available fuel to sustain such a fire and provide a measure of protection to the urban interaction in this area.

Environmental Consequences, No Action Alternative: Under this alternative, sagebrush would continue to occupy and encroach into the area reducing total production and diversity of the plant community. Elevated levels of sediment release into the watershed would continue to be possible. Fuel loads would continue to accumulate and increase the risk for catastrophic wildfires.

Mitigative Measures: None

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no hazardous materials present in the project area.

Environmental Consequences, Proposed Action: Potential releases of hazardous materials could occur due to vehicle and equipment use associated with the proposed action. Coolant, oil, and fuel are materials that could potentially be released. The potential for releases of any of these materials is low and if a release were to occur, it would be minimal and highly localized and not result in an adverse impact to the area.

Environmental Consequences, No Action Alternative: There is still some potential for the releases of hazardous materials could occur due to typical vehicle travel on area roads. The potential is very low and would be minimal and highly localized and not result in an adverse impact to the area.

Mitigative Measures: None

WATER QUALITY - GROUND

Affected Environment: There are no recorded water wells within the vicinity of the proposed project.

Environmental Consequences, Proposed alternative: None

Environmental Consequences, No Action Alternative: No direct effects on ground water quality are anticipated from selecting the No Action Alternative.

Mitigation Measures: None

WATER QUALITY - SURFACE

Affected Environment: The proposed project area is west of Sand Wash Basin where any surface runoff water would flow east in ephemeral tributaries to Sand Wash, which is tributary to the Little Snake River over 20 miles downstream. There are no water quality standards or designated classification uses for Sand Wash. There are no impairments or suspected water quality issues in the area immediately downstream/down slope of the proposed project area.

Environmental Consequences, Proposed Action: The proposed action may have some short term effects to the water quality of ephemeral streams in the project area during times of runoff. These effects would be from the prescribed burning treatment and would result from accelerated soil erosion. Increases in sediment, nitrogen, phosphorous, and cation production are likely in the first couple of years after treatment. With the exception of sediment, these increases would be minor and short lived, returning to pre-treatment levels in a couple of years. Although

increased sediment may enter these ephemeral tributaries, an unknown and varying amount of this sediment would be deposited and stabilized further downstream. Stabilized sediments could have beneficial effects to the function of these ephemeral streams and reduce the amount of sediment transport to active or perennial floodplains downstream. The prescribed burn would be ignited under prescribed (or favorable) conditions and would be expected to be of varying intensities in order to create a mosaic burn pattern. This is expected to keep sediment and nutrient yields from increasing to levels that would further degrade existing water quality. The effects of the proposed action would be short lived and not out of the natural variability of the area.

Minimal surface disturbance would occur with the proposed mechanical treatments. Little to no effect to water quality would be expected to result from implementing the mechanical fuel reduction treatments.

In the long term, the proposed action would have a positive impact to water quality, as there will be a reduced potential for large scale wildfire and an expected increase in plant diversity and ground cover.

Environmental Consequences, No Action Alternative: No direct effects on water quality are anticipated from selecting the No Action Alternative. Indirect negative effects could result if a large wildfire occurred in the area. In this event, substantially more sediment and nutrient loading of runoff waters would likely occur and it would be derived from a larger area of the landscape.

Mitigative Measures: None.

Reference: Colorado Department of Public Health and Environment Water Quality Control Commission. 2010. Regulations #33, 37, and 93. <http://www.cdphe.state.co.us/regulations/wqccregs/index.html>

WILDLIFE, TERRESTRIAL

Affected Environment: A variety of wildlife habitats and their associated species occur in the project area. Common species such as coyotes, cottontail rabbits, chipmunks and wood rats likely use these habitats. Mule deer and elk can be found in or near the proposed treatment year round. Although there are no known raptor nests in the project area, pinyon-juniper woodlands provide nesting substrate for a variety of raptor species.

Environmental Consequences, Proposed Action: The proposed prescribed burn and mechanical treatments would create a mosaic of seral stages within the project area. Reducing tree and shrub cover would increase grasses and forbs. This would improve habitat for species that rely on the herbaceous component of the ecosystem for food and/or cover. Elk would likely be attracted to the burn as new grasses emerge, creating more forage for this species. As cover of older sagebrush and mountain shrub is removed, some shrubs will re-sprout and younger shrubs will establish, providing highly nutritional browse for big game species. Overall, the project would improve habitat for terrestrial wildlife species.

It is likely that the use of heavy equipment during treatment implementation would result in some short term disturbance to resident wildlife. Prescribed burning would also disturb wildlife, mainly due to an increase in noise and human presence. Some species will be temporarily displaced from the area to adjacent habitats, but would be expected to return once the treatment is completed.

Environmental Consequences, No Action Alternative: Under the no action alternative, no fuels treatments would be implemented. Over time, sagebrush habitats would continue to be lost as pinyon-juniper woodland expansion continues. This may improve conditions for pinyon-juniper dwelling species while negatively impacting the sagebrush dependant species.

Mitigative Measures: None.

CUMULATIVE IMPACTS SUMMARY:

This is a remote area that has had limited impact from human activities other than road construction and grazing. Other less obvious influences are hunting, wildlife use, and wildfire occurrence and associated suppression. Performing prescribed burning would have similar impacts as letting naturally occurring fires burn and is an attempt to re-introduce fire into an ecosystem where fire had been a substantial ecological force in the past prior to widespread fire suppression. The proposed action is compatible with other uses, both historic and present, and would not add any new or detrimental impacts to those already present.

STANDARDS

PLANT AND ANIMAL COMMUNITY (animal) STANDARD: The project area provides habitat for a variety of terrestrial wildlife species. The treatment would create a mosaic of seral stages within pinyon-juniper woodlands and sagebrush stands, resulting in suitable and productive habitat for wildlife species. The Proposed Action would meet this standard.

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal) STANDARD: The project is on the fringe of greater sage-grouse habitat. This species is a BLM sensitive species and a candidate for federal ESA listing. Habitat quality has been reduced due to the encroachment of junipers into sagebrush stands. The proposed fuels project would open up older sagebrush stands and remove encroaching junipers. The Proposed Action would meet this standard.

PLANT AND ANIMAL COMMUNITY (plant) STANDARD: This standard is being met within the West Boone Draw Allotment. The allotment contains healthy, diverse, native plant community. The present plant communities are vigorous and productive. The Proposed Action would continue to meet this standard as well as increase the diversity and habitat structure of the vegetative community.

The No Action alternative would not increase the diversity or structure of the plant community and would continue to accumulate vegetative litter that could potentially fuel a wildfire. Over time, as the plant community became more dominated by sagebrush, Utah juniper and pinyon

pine, the monoculture would lead to decreased productivity and vigor. Under this alternative the standard would eventually not be met.

SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant)

STANDARD: There are no federally listed threatened or endangered or BLM sensitive plant species within or in the vicinity of the proposed treatments. This standard does not apply.

RIPARIAN SYSTEMS STANDARD: There are no identified springs, seeps, wetlands, or riparian areas within the proposed project area. This standard does not apply.

WATER QUALITY STANDARD: This standard would be met under either alternative. There are no perennial surface waters within the project area and any surface runoff would flow north into a system of ephemeral tributaries through Sand Wash Basin that eventually reach the Little Snake River over twenty miles away from the proposed project area. There are no water quality standards or designated classification uses for Sand Wash. There are no impairments or suspected water quality issues in the area immediately downstream/down slope of the proposed project area.

UPLAND SOILS STANDARD: The 2002 landscape health assessment for the area near the proposed project area concluded that this standard is being met. The project may cause some short term soil instability on the area targeted for prescribed burning but the burn plan as proposed is expected to encourage ground cover growth that will reduce erosion over the long term. This standard would continue to be met under either alternative.

PERSONS/AGENCIES CONSULTED: Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

ATTACHMENTS: Project Map.

SIGNATURE OF PREPARER: /s/ Dale Beckerman

DATE SIGNED: 09/14/11

SIGNATURE OF ENVIRONMENTAL REVIEWER: /s/ Barb Sterling

DATE SIGNED: 09/16/11

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
DOI-BLM-CO-N010-2010-0100-EA

Based on the analysis of potential environmental impacts contained in the EA and all other available information, I have determined that the proposal and the alternatives analyzed do not constitute a major Federal action that would adversely impact the quality of the human environment. This determination is based on the following factors:

1. Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.
2. Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.
3. There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands, floodplain, areas with unique characteristics, ecologically critical areas or designated Areas of Critical Environmental Concern.
4. There are no highly controversial effects on the environment.
5. There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.
6. This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State or local natural resource related plans, policies or programs.
7. No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.
8. Based on previous and ongoing cultural surveys and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.
9. No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.
10. This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

I have reviewed the direct, indirect and cumulative effects of the proposed activities documented in EA No. DOI-BLM-N010-2010-0100 EA. I have also reviewed the project record for this analysis and the impacts of the proposed action and alternatives as disclosed in the Alternatives and Environmental Impacts sections of the EA. Based upon a review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. Because there would not be any significant impact, an environmental impact statement is not required.

SIGNATURE OF AUTHORIZED OFFICIAL: /s/ Wendy Reynolds

DATE SIGNED: 09/22/11

Decision Record
DOI-BLM-CO-N010- 2010-0100-EA

DECISION AND RATIONALE:

I have determined that approving this fuels reduction project is in conformance with the approved land use plan. It is my decision to implement the project with the specified mitigation measures. The project will be monitored as stated in the Compliance Plan outlined below.

MITIGATION MEASURES: The mitigation measures for this project are described in the environmental impacts section of the environmental analysis for cultural resources, paleontology, and Wildlife T&E and Sensitive Species.

COMPLIANCE PLAN(S):

Compliance Schedule

Compliance will be conducted during the implementation phase to insure that all specifications and mitigative measures outlined in EA No. DOI-BLM-N010-2010-0100 EA are followed. If contracted, contractor performance and progress will be documented by the assigned Contracting Officers Representative.

Monitoring Plan

Following implementation, the treated area will be mapped and filed with the project file and a copy given to the range staff. Photo plots will be established and new photos taken each year for the following three years to document vegetation response to the treatment. This monitoring will help determine the treatment effectiveness and document the need for additional mitigative measures or specification changes for future projects.

Assignment of Responsibility

Responsibility for implementation of the compliance schedule and monitoring plan will be assigned to the Fire Management Specialist in the Little Snake Field Office. .

Administrative Review or Appeal Opportunities

This decision is effective upon the date the decision or approval by the authorized officer. Under regulations addressed in 43 CFR Subpart 3165, any party adversely affected has the right to appeal this decision. An informal review of the technical or procedural aspects of the decision may be requested of this office before initiating a formal review request. You have the right to request a State Director review of this decision. You must request a State Director review prior to filing an appeal to the Interior Board of Land Appeals (IBLA) (43CFR 3165.4).

If you elect to request a State Director Review, the request must be received by the BLM Colorado State Office, 2850 Youngfield Street, Lakewood, Colorado 80215, no later than 20 business days after the date the decision was received or considered to have been received. The request must include all supporting documentation unless a request is made for an extension of

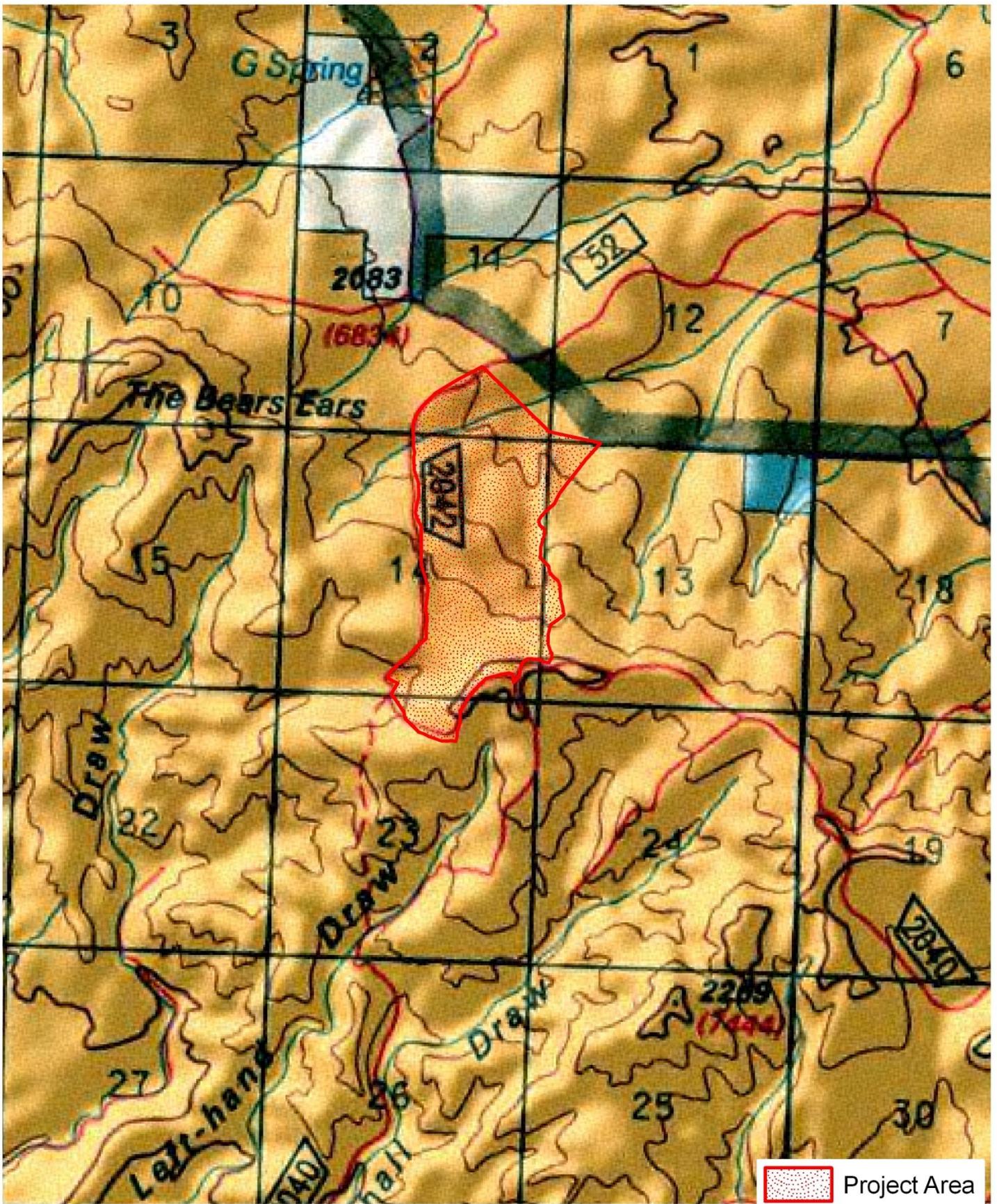
the filing of supporting documentation. For good cause, such extensions may be granted. You also have the right to appeal the decision issued by the State Director to the IBLA.

Contact Person

For additional information concerning this decision, contact Dale Beckerman, Fire Management Specialist, Little Snake Field Office, 455 Emerson Street, Craig, CO 81625, Phone (970) 826-5004.

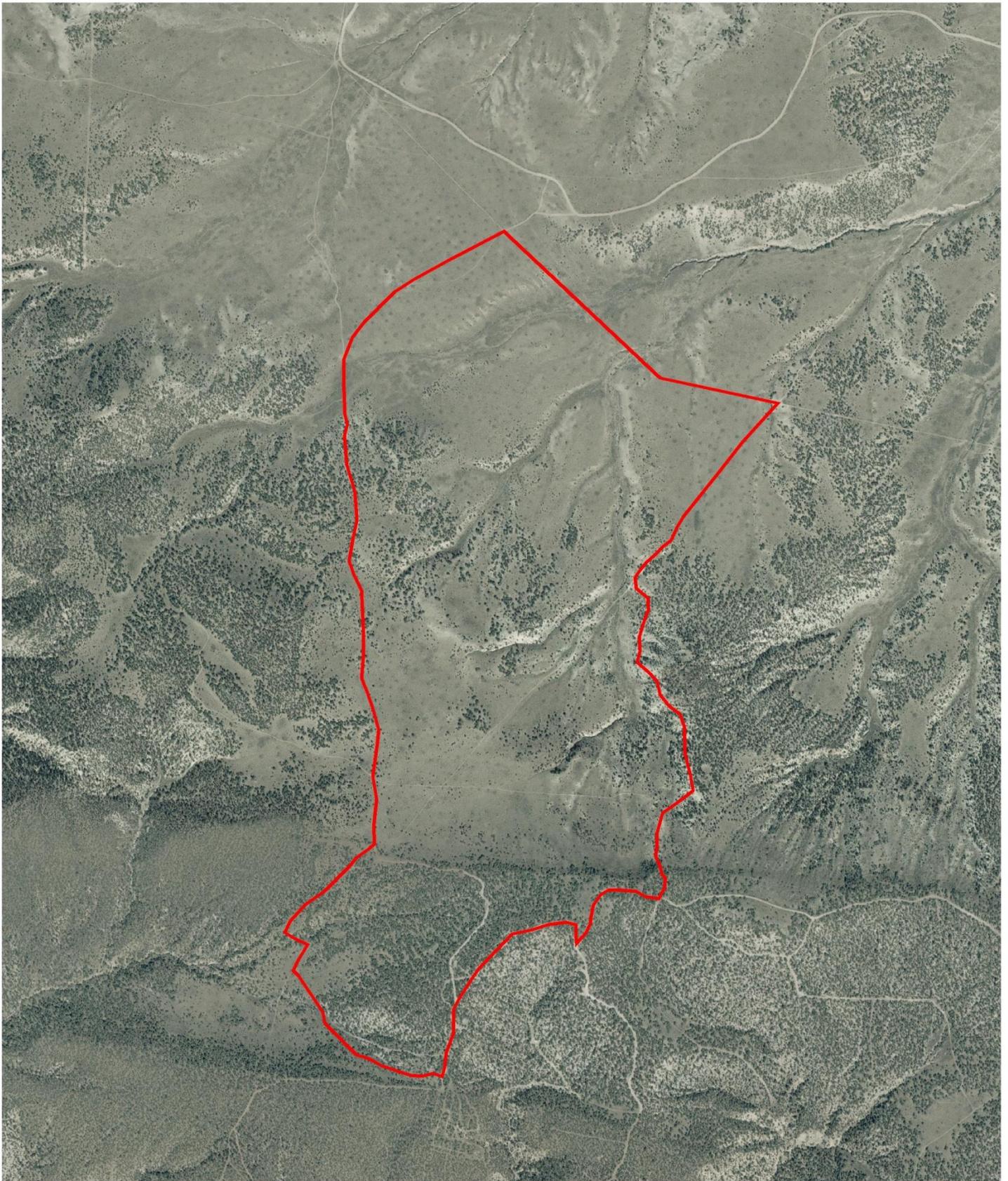
SIGNATURE OF AUTHORIZED OFFICIAL: /s/ Wendy Reynolds

DATE SIGNED: 09/22/11



Bears Ears Fuels Reduction Project
400 acres
T9N R100W

5/2/2010



0 0.25 0.5 Miles



Bears Ears Fuels Reduction Project
400 acres
T9N R100W