

CHECKLIST ENVIRONMENTAL ASSESSMENT

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| Project Name: | Brundage Salvage Timber Permit |
| Proposed Implementation Date: | August 2011 |
| Proponent: | DNRC |
| Location: | NE4NE4 Section 8-T13S-R3W and NW4NW4 Section 9-T13S-R3W |
| County: | Beaverhead |

I. TYPE AND PURPOSE OF ACTION

DNRC, Dillon Unit, is proposing a commercial salvage timber permit to harvest an estimated 115 MBF of Douglas-fir and spruce sawtimber from approximately 14.5 acres of tractor ground on Common School Trust lands. Purpose of the action is to generate revenue for the Common School trust; improve the health, vigor and productivity of the forest stands through the removal of dead, dying, at-risk, overstocked and suppressed timber; and reduce susceptibility to fire and additional insect and disease while bringing treated portions of stand closer to a semblance of historic conditions.

Lands involved in this proposed project are held by the State of Montana in trust for the Common Schools (Enabling Act of February 22, 1889: 1972 Montana Constitution, Article X Section 11). The Board of Land Commissioners and the DNRC are required, by law, to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for these beneficiary institutions (Section 77-1-202, MCA). The DNRC would manage lands involved in this project in accordance with the State Forest Land Management Plan (DNRC 1996), the Administrative Rules for Forest Management (ARM 36.11.401 through 450), and all other laws applicable to timber harvest activities on State lands.

(See Attachment A for site specific locations).

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED: *Provide a brief chronology of the scoping and ongoing involvement for this project.*

A field review was conducted on August 1, 2007, by DNRC forester Chuck Barone.

Letters were sent in August 2007 to the following seeking comments for the proposed timber harvest:

MT Fish, Wildlife and Parks, Fisheries Management Biologist, R. Oswald

MT Fish, Wildlife and Parks, Wildlife Biologist, C. Fager

BLM, T. Bozorth

Ruby Dell Ranch, Inc.

Other contacts:

DNRC, Archaeologist, P. Rennie

BLM, J. Casey, A. Piwowar, J. Dougherty

USFS, M. Petroni

Montana Natural Heritage Program

Montana Fisheries Information System

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

The Beaverhead County Weed Control administers the State weed laws in Beaverhead County. The County Weed Control would be contacted by the DNRC and given a weed plan for the project.

DNRC is classified as a major open burner by the Montana Department of Environmental Quality (DEQ), and is issued a permit from the DEQ to conduct burning activities on State lands managed by the DNRC. As a major open burning permit holder, DNRC agrees to comply with all of the limitations and conditions of the permit.

A 124 permit from MT FWP would be required for the temporary stream crossing. A road use/ROW Grant from the BLM would be required for access to the State parcels.

3. ALTERNATIVES CONSIDERED:

Action Alternative: Harvest ~115 MBF of overstocked timber from an estimated 14.5 acres of State land, located in Sections 8 & 9-T13S-R3W.

Stand treatments would consist of harvesting approximately 55-75% of the merchantable sawtimber utilizing group selection/selection/seed tree harvests. Harvest design is intended to maintain a semblance of historic conditions while improving forest health, vigor and productivity through the removal of insect damaged and overstocked timber through the emulation of mixed severity fires. Approximately 625 feet of temporary, minimum standard new spur road, involving a temporary, intermittent stream crossing, would be needed to access the harvest unit. A designated skid trail would be utilized through the northern portion of the harvest unit to protect riparian areas. Excess slash would be consolidated at landings and burned.

No Action Alternative: Current management actions would be maintained and forest management and harvesting actions would be deferred. This tract is currently leased for grazing.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The proposed project is located on relatively gentle slopes ($\leq 35\%$). Soils are moderate depth (8-10") sandy loam topsoils over very cobbly sandy loams. Erosivity is moderate and can be controlled with standard drainage features. Deeper fine textured, clay rich soils occur in draws supporting Douglas-fir habitat types and pockets of spruce. No unique or unstable geology or soils occur in the proposed project area.

Presently, the roads on the State are designated as closed, although they show frequent use. Most of the roads are hunter two-tracks. None of the roads are maintained, they have no erosion features and many have road grades in excess of 20%.

The proposed project would require the construction of ~625 feet of temporary, minimum standard new road on BLM Section 4-T13S-R3W (~525 feet) and the State (~100 feet). The new road would include the installation of an 18" X 26' culvert on the BLM in a small unnamed, intermittent tributary to Long Creek. The road is located on gentle slopes with moderate erosion hazard and buffered from the stream except at the culvert crossing. The new road would be physically closed or obliterated and the culvert removed at the completion of the project.

The primary soil concerns associated with timber harvest are direct effects of rutting and displacement of surface soils by equipment operation and road construction. Harvest operations would retain a proportion of coarse woody debris and fine slash to help provide erosion control, shade and organic matter to maintain soil productivity. Ground effects of the harvest operation would be closely monitored.

Implementation of Forestry Best Management Practices (BMP's) and mitigation measures would reduce the risk of sedimentation from roads and reduce the risk and severity of soil erosion and potential sediment delivery. Soil effects would be minimal and long-term productivity would be maintained or improved and reducing the stand stocking would make limited soil moisture and nutrients available to residual trees.

With recommended mitigation measures, no significant impacts or cumulative effects are expected to soil resources.

(See Attachment D - Lone Butte Timber Sale Road Access Environmental Assessment)

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

The proposed project is located at the upper reaches of an unnamed, intermittent tributary of Long Creek. The intermittent tributary does not support a fishery but Long Creek does support hybridized populations of westslope cutthroat trout, brook trout and long-nosed suckers. Long Creek is a second order perennial tributary to the Red Rock River. Both Long Creek and the Red Rock River are listed on the 2006 Montana 303(d) list of water quality limited water bodies and are classified as B-1 in the Montana Surface Water Quality Standards. A B-1 classification is for multiple use waters suitable for domestic use after conventional treatment, growth and propagation of cold-water fisheries, associated aquatic and wildlife, and agricultural and industrial uses.

No harvesting has occurred in the last fifty years within the immediate watershed (~2,537 acres) and levels of forest crown removal are well below those normally associated with increased water yields. Only 2.9% of the watershed is forested. The remaining land area in the drainage consists of rangeland and non-forested foothills. The small amount of existing forest crown canopy contained in the watershed has very little influence on the timing, duration or magnitude of runoff produced from the watershed. There would be no measurable effects on stream flow regimes (water yield, magnitude, and duration of peak flows) due to vegetation manipulation in the immediate watershed.

Presently, the access route to the proposed State project is the existing Fish Creek access road on the US Forest Service and BLM which is not suitable for log truck traffic without major road reconstruction including an existing stream crossing and approaches on a second unnamed, intermittent tributary of Long Creek. This road is an unmaintained two-track composed predominately of clay loam soils with little gravel or rock material. The road also closely parallels the unnamed tributary for over one mile. Although this road could be reconstructed with adequate drainage and a usable stream crossing installed, due to the poor road location and material, there would always be a high potential for erosion, sediment delivery and short-term water turbidity. Additionally, the USFS has shown no interest in working with interested parties and upgrading the road (A. Piwowar, BLM, Pers. Comm. December 2010).

The proposed State timber permit is contingent on the sale and subsequent implementation of the BLM's proposed Lone Butte Timber Sale which would afford a reasonable access to the State project. The proposed BLM sale involves a new access route that would utilize existing roads and new construction on BLM (~0.7 miles) and State lands (~0.4 miles). This location would direct the new access route to the south of the existing Fish Creek road access on a dry ridge, away from the unnamed tributary of Long Creek and on drier, upland ground. The sagebrush/grassland terrain has more gravel and rock material and no water or wet areas.

Land management activities such as road reconstruction, construction, maintenance and use can potentially increase levels of fine sediment delivery to streams if not properly located, designed, and mitigated. The primary risks to water quality that are associated with the proposed project are roads, especially roads located along or crossing streams. Risk of erosion and sediment delivery are highest when roads are located in areas with inadequate buffering between streams and other drainage features, on erosive soils, or on steep and/or unstable slopes. A lack of periodic maintenance, inadequate surface drainage features, and use during wet periods or conditions may also contribute to higher risk.

Several segments of existing road lack sufficient drainage features and may cause erosion problems in the future if not properly mitigated. The State has adopted Forestry Best Management Practices (BMPs) through its Nonpoint Source Management Plan as the principle means of controlling nonpoint source pollution.

Implementation of appropriate Best Management Practices and mitigation measures would reduce the risk of sedimentation from roads; and reduce the risk and severity of soil erosion and potential sediment delivery to Long Creek and its tributaries, Red Rock River and ephemeral drainage features.

The proposed State project would require the construction of ~625 feet of temporary, minimum standard new road on BLM Section 4-T13S-R3W (~525 feet) and the State (~100 feet). The new road would include the installation of an 18" X 26' culvert on the BLM in a small unnamed, intermittent tributary to Long Creek. The road is located on gentle slopes with moderate erosion hazard and buffered from the stream except at the culvert crossing. The new road would be physically closed or obliterated and the culvert removed at the completion of the project. Due to the intermittent nature of the stream, site-specific design of the crossing, application of BMP's and additional mitigation measures, there is low risk of any increased sediment delivery to Long Creek from the proposed new road and stream crossing.

The harvest unit is located along an unnamed, intermittent tributary of Long Creek with associated wetlands. A designated skid trail would be utilized through the northern portion of the harvest unit to protect riparian areas. Selection of appropriate harvest and yarding systems, operating seasons, limiting equipment operations to suitable slopes or designated trails and appropriate ground conditions, and implementation of appropriate BMP's and additional mitigation measures would be used to reduce the risk and severity of soil erosion and potential sediment delivery to streams and ephemeral drainage features. Streamside management zones and equipment restriction zones would be designed to effectively buffer streams and other ephemeral drainage features from harvest activities. No sediment delivery to streams is expected to result from timber harvest operations.

With recommended mitigation measures, no significant impacts or cumulative effects are expected to occur to water quality, water yield, watershed conditions, fisheries or any other beneficial uses associated with the watersheds adjacent to the proposed project areas or any downstream tributaries.

(See Attachments D & F - Lone Butte Timber Sale Road Access Environmental Assessment; Montana Natural Heritage Program/ Montana Fisheries Information System)

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

The project includes piling and burning of logging slash. Localized short duration particulate emissions occur during slash burning. Slash burning is normally conducted in late October through November. The DEQ and the Cooperative Airshed groups regulate particulate emissions during this period. Burning times are coordinated to 1) limit burning periods of acceptable smoke dispersion and 2) to limit the cumulative generation of particulates.

DNRC is a member of the Montana/Idaho Airshed Group, which coordinates burning activities related to forest management among the group's members in order to minimize impacts from smoke generated by those activities. As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit in Missoula, MT. Thus direct, indirect, and cumulative impacts associated with the proposed action are expected to minimal.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

The State parcels are located on the southwestern edge of the Gravelly Range within the grassland interface. Slopes range from 10-55% with an elevation range of 7500-7800 feet. The State parcels have ~33 forested acres which are dominated by Douglas-fir with spruce found in and along the riparian areas. The cover type is Douglas-fir and the habitat type is Douglas-fir/Elk Sedge (Psme/Cage). No harvesting has occurred in the last

50 years within the immediate watershed. The BLM is proposing a timber sale which would harvest ~130 MBF on ~53 acres one-half mile to the northwest of the proposed project.

Forested stands are included in fire group five with Douglas-fir the climax species and a vigorous seral on the drier sites with spruce as a major seral in the riparian areas. Historically, the drier sites ranged from low intensity ground fires to intense, mixed-severity events, which maintained mature stands in scattered patches and a more open condition. No true old growth areas are found in the stand but scattered individuals and small clumps (<2 acres) of old relic Douglas-fir trees do occur within the proposed unit. The presence of scattered old, open-grown Douglas-fir were likely the result of frequent fires burning at lower intensities on gentle slopes and indicate that much of the project area was likely influenced by relatively frequent fire events. Historic fire events likely contributed to a naturally fragmented, open-park type community of forest stands at the landscape scale.

Douglas-fir and spruce trees that are less than 150 years old appear to represent forest encroachment due to forest succession and lack of fire disturbance during the past century. Fire suppression efforts have led to an increase in forest cover over the past 100 years. The absence of fire, in combination with encroachment, has resulted in overstocked and suppressed stands. These conditions make the stands more susceptible to fire and attack from insects and disease.

There is currently more total forest cover in Beaverhead County than in prior historical conditions. The proposed harvest would involve 44% of the total forested acres within the State parcels and 19.7% of the total forested acres within the watershed. Harvesting an estimated 115 MBF of timber would alter the forest cover on approximately 14.5 acres. Harvest design is intended to maintain a semblance of historic conditions while promoting forest health, vigor and productivity by reducing overstocking through the emulation of mixed severity fires. Natural regeneration would be expected.

The stand is overstocked and suppressed and has spruce budworm damage in the upper crowns and a few small pockets of Douglas-fir bark beetle. A group selection/selection/seed tree harvest removing 55-75% of the merchantable sawtimber volume would be used to reduce over stocking and suppression, fire hazard, and insect and disease infestations. Desirable dominate/co-dominate trees would be left for seed source where available along with the large, old relic trees, and the remaining sawtimber to be removed. Due to areas of un-operable ground and sub-merchantable timber, islands of unharvested timber would be scattered throughout the stand.

No rare plants or cover types have been noted in the project area or State tract. No noxious weeds have been noted along the access route to the proposed project or on the State tract. All disturbed areas would be seeded with a native grass mixture and erosion control features would be installed where necessary.

The DNRC requires the washing of equipment, seeding of grass and monitoring of disturbed areas to minimize the potential of noxious weeds being introduced.

With recommended mitigation measures, no significant impacts or cumulative effects to vegetative communities are expected from the proposed actions.

(See Attachment B – Vegetative Analysis/Stand Prescription)

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A variety of game and non-game species potentially use this area. A partial list of likely species includes mule deer, elk, rabbit, red tail hawk, and brook trout.

The proposed project area lies within FWP Hunting District 327 and it occurs in important habitat for elk. Within this Elk Management Unit, FWP has stated challenges to..."reduce hunter crowding while maintaining hunter opportunity" (FWP 2004). Bull elk vulnerability and limited security cover are additional challenges expressed by FWP in this hunting district and the Gravelly EMU (FWP 2004). Overcoming these challenges can be hampered when available cover at the landscape level is reduced appreciably through timber harvest activities, road management, or natural disturbances, such as large-scale stand-replacement wildfires.

Although security cover is limited in the proposed project area, no significant impacts to wildlife are anticipated due to the size and harvest design of the proposed project. The proposed project would not affect the present public access, which presently provides high human levels.

No adverse impacts are expected to terrestrial, avian or aquatic habitats.

Due to the size and duration of the proposed project, harvest design, minimal new construction and additional recommended mitigation measures, no impacts are expected to wildlife and fisheries habitats.

(See Attachments E, F & G – Checklist for Endangered, Threatened and Sensitive Species; Montana Natural Heritage Program/ Montana Fisheries Information System; Elk Security and Vulnerability in the Gravelly EMU and Hunting District 327)

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

The Long Creek drainage supports hybridized populations of westslope cutthroat trout. Due to the distance from Long Creek drainage, the intermittent nature of the tributary within the proposed project area, harvest design, relatively gentle topography and additional mitigation measures, the proposed project should not adversely affect fisheries habitats.

The proposed project area falls within the Yellowstone Nonessential Experimental Area for gray wolves. The nearest packs are the Horn Mtn. pack and the Centennial pack. Individuals from these packs or transients from other packs could occasionally use portions of the proposed project area, however, due to the size, nature, duration and location of the proposed project, activities associated with this proposal are not expected to effect wolves or recovery efforts. Should a new den be located within one mile of the proposed project area, activities would cease and a DNRC Biologist would be contacted immediately. Mitigations would then be developed and implemented to minimize adverse impacts to wolves prior to initiating any activity.

The proposed project area is situated approximately 23 miles west of the Greater Yellowstone Ecosystem Grizzly Bear Recovery Zone. Grizzly bears have not been documented in the vicinity of the proposed project area although the proposed project area lies within a zone considered as occupied habitat (Interagency Occupied Habitat Map, September 2002). DNRC is not aware of any specific observations of grizzly bears associated with the proposed project area, however, periodic or transient use is possible. Proposed project activities would not occur during the spring period and activities would be short-term in nature. The potential for any measurable increases in bear-human conflicts following the project activities are expected to be low. Adverse direct, indirect and cumulative impacts to bears as a result of this project are expected to be minimal.

The proposed project area is located along the far outer fringes of preferred lynx habitat in rangeland and predominately non-forested foothills. Preferred lynx habitat is marginal within the proposed project area due to the rangeland location and lack of highly desirable habitat conditions for lynx and their primary prey, snowshoe hares. Adverse direct, indirect or cumulative impacts to lynx as a result of this project are expected to be negligible.

The proposed project area falls within the range of wolverines. The DNRC is not aware of any specific observations of wolverines associated with the proposed project area, however, periodic or transient use of the proposed project area could occur. Due to the size, nature, duration and location of the proposed project, activities associated with this proposal are expected to have minimal effect on wolverines.

Sagebrush semi-desert habitats suitable for use by Sage Grouse do occur within one mile of the project area. No leks are known to occur within one mile of the proposed project or haul route. Should sage grouse be present in the vicinity of the project area, any effects to habitat or disturbance-related effects would be expected to be minimal, due to the late start-up date of activities (i.e., post June 15), and preferred sagebrush habitat would not be altered. Impacts to Sage Grouse would not be anticipated.

No other threatened/endangered species, sensitive species or species of special concern have been documented within the proposed project area. No adverse impacts are expected to threatened/endangered species, sensitive species or species of special concern.

(See Attachments E & F – Checklist for Endangered, Threatened and Sensitive species; Montana Natural Heritage Program/ Montana Fisheries Information System)

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

No cultural resources have been identified in the project area. No additional archaeological investigative work is recommended.

(See Attachment H – BLM Cultural Resource Inventory Report #07-MT-050-54)

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

The project area is not visible to any populated area. Due to the topography, remote location and activity proposed, impacts concerning aesthetics are not expected.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

NONE.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

In December 2010, the BLM Lone Butte Access LUL EA was completed allowing the BLM to reconstruct/construct roads, haul logs and access to their lands, across State lands, to facilitate their Lone Butte timber sale.

In May 2010, the Bureau of Land Management Draft Lone Butte Timber Sale Road Access Environmental Assessment was released, addressing the Fish Creek road alternative access and State lands involved.

Bureau of Land Management Dillon Resource Management Plan (February 2006).

Bureau of Land Management Centennial Watershed Environmental Assessment (September 2005).

Cumulative impacts as a result of the proposed action in conjunction with the above listed activities are expected to be minor and temporary.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

NONE.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

NONE.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Due to the small size of the proposed project and remote location, there will be no measurable cumulative impact from this proposed action on employment.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Due to the small size of the proposed project and remote location, there will be no measurable cumulative impact from this proposed action on tax revenues.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

There will be no measurable cumulative impacts related to demand for government services due to the small size of the proposed project, the short-term impacts to traffic, the small possibility of a few people temporarily relocating to the area, the remote location and the lack of other activities in the adjacent area.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

DNRC developed the State Forest Land Management Plan (SFLMP) in 1996, a programmatic plan that outlines the approach and philosophy guiding land management activities on forested school trust lands throughout the state of Montana.

DNRC adopted the Administrative Rules for Forest Management on March 13, 2003, applicable to management activities on forested school trust lands.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Persons possessing a valid state lands recreational use license or FWP conservation license may conduct recreational activities on the State tract. The proposed project would allow the State tract to be accessed with a designated open road and would not affect the existing access to the east of the proposed project for the general public.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

There will be no measurable cumulative impacts related to population and housing due to the small size and remote location of the proposed action.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

NONE.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

NONE.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The estimated return to the trust would be \$3,082.00 (115 MBF of sawtimber @ \$26.80/MBF). This estimate is intended for comparison of alternatives, not as an absolute estimate of return.

The Trust would continue to receive \$1,424.47/year from two grazing licenses.

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| EA Checklist Prepared By: | Name: Chuck Barone | Date: December 14, 2010 |
| | Title: Dillon Unit Forester | |

V. FINDING

25. ALTERNATIVE SELECTED:

Action Alternative: Harvest ~115 MBF of overstocked timber from an estimated 14.5 acres of State land, located in Sections 8 & 9-T13S-R3W.

Stand treatments would consist of harvesting approximately 55-75% of the merchantable sawtimber utilizing group selection/selection/seed tree harvests. Harvest design is intended to maintain a semblance of historic conditions while improving forest health, vigor and productivity through the removal of insect damaged and overstocked timber through the emulation of mixed severity fires. Approximately 625 feet of temporary, minimum standard new spur road, involving a temporary, intermittent stream crossing, would be needed to access the harvest unit. A designated skid trail would be utilized through the northern portion of the harvest unit to protect riparian areas. Excess slash would be consolidated at landings and burned.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

As this EA checklist indicates, there are no long term or cumulative impacts anticipated by allowing this proposed timber harvest to proceed. The area is currently sustaining mortality from Douglas fir beetles. It's important to allow the harvest of these trees to occur before they lose all monetary value to the trust and help clean up the possible fire hazard if the trees continue to die and end up on the ground. The mitigation measures listed below will be followed to reduce any short term impacts that the sale may have.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS

More Detailed EA

No Further Analysis

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| EA Checklist Approved By: | Name: Tim Egan |
| | Title: Dillon Unit Manager |
| Signature: /S/ Timothy Egan | Date: 12/28/10 |

MEASURES RECOMMENDED TO MITIGATE POTENTIAL IMPACTS:

- 1) Compliance with Forestry Best Management Practices (BMP's), Streamside Management Zone (SMZ) laws and applicable DNRC Forest Management ARMS.
- 2) The temporary stream crossing would comply with the guidelines and specifications stated in the 124 permit and BLM ROW Grant.
- 3) Proceed with proposed project in accordance with DNRC Attachment 'B' - Road Construction, Improvement and Maintenance Specifications and BLM road use permit and ROW Grant.
- 4) Limit equipment operations to periods when soils are dry, frozen or snow covered to minimize soil compaction, rutting and vegetative disturbance. Control erosion by installing adequate drainage on roads.
- 5) A designated skid trail would be utilized through the northern portion of the harvest unit to protect riparian areas.

- 6) The Forest Officer shall approve a plan for felling, yarding and landing location in each harvest unit prior to the start of operations in the unit. The locations and spacing of skid trails and landings shall be designated and approved by the Forest Officer prior to operations and skid trails will not be spaced less than 60 feet. Retain all fine litter as feasible and 5-10 tons/acre of large woody debris >3" diameter. Minimize soil disturbance by general skid trail planning and limit sustained tractor skidding to slopes ≤45%. Sustained slopes >45% would be harvested utilizing a winch and cable line. Slash would be left in the harvest units where feasible, and distributed on skid trails upon completion of use, for nutrient cycling, to control erosion and to provide shade and protection for seedlings.
- 7) Retain live, healthy older trees and stand attributes suitable for old growth development where available and applicable.
- 8) One snag and one snag recruit per acre, of the largest diameter class, would be retained where applicable. Cull live trees and cull snags would be retained where applicable.
- 9) All road construction and logging equipment would be power washed and inspected prior to being brought on site. Project area would be monitored for weeds following harvest and a treatment plan would be developed should noxious weeds occur.
- 10) For slope stability on the road construction segments, construct cutslopes at 1:1 (run/rise) in common material and 1/4:1 for rock. Install adequate road drainage to control erosion concurrent with harvest activities and road construction and reconditioning. Provide effective sediment filtration along drainage features near crossing sites.
- 11) New road construction would be physically closed or obliterated. At sale closure, grass seed temporary crossing, roads, skid trails (where needed) and landings with an appropriate seed mixture.
- 12) Contact DNRC wildlife biologist should any threatened or endangered species be encountered within the proposed project area.

ATTACHMENTS

Attachment A - Site Specific Map

Attachment B - Vegetative Analysis/Stand Prescription

Attachment D - Lone Butte Timber Sale Road Access Environmental Assessment

Attachment E - Checklist for Endangered, Threatened and Sensitive species

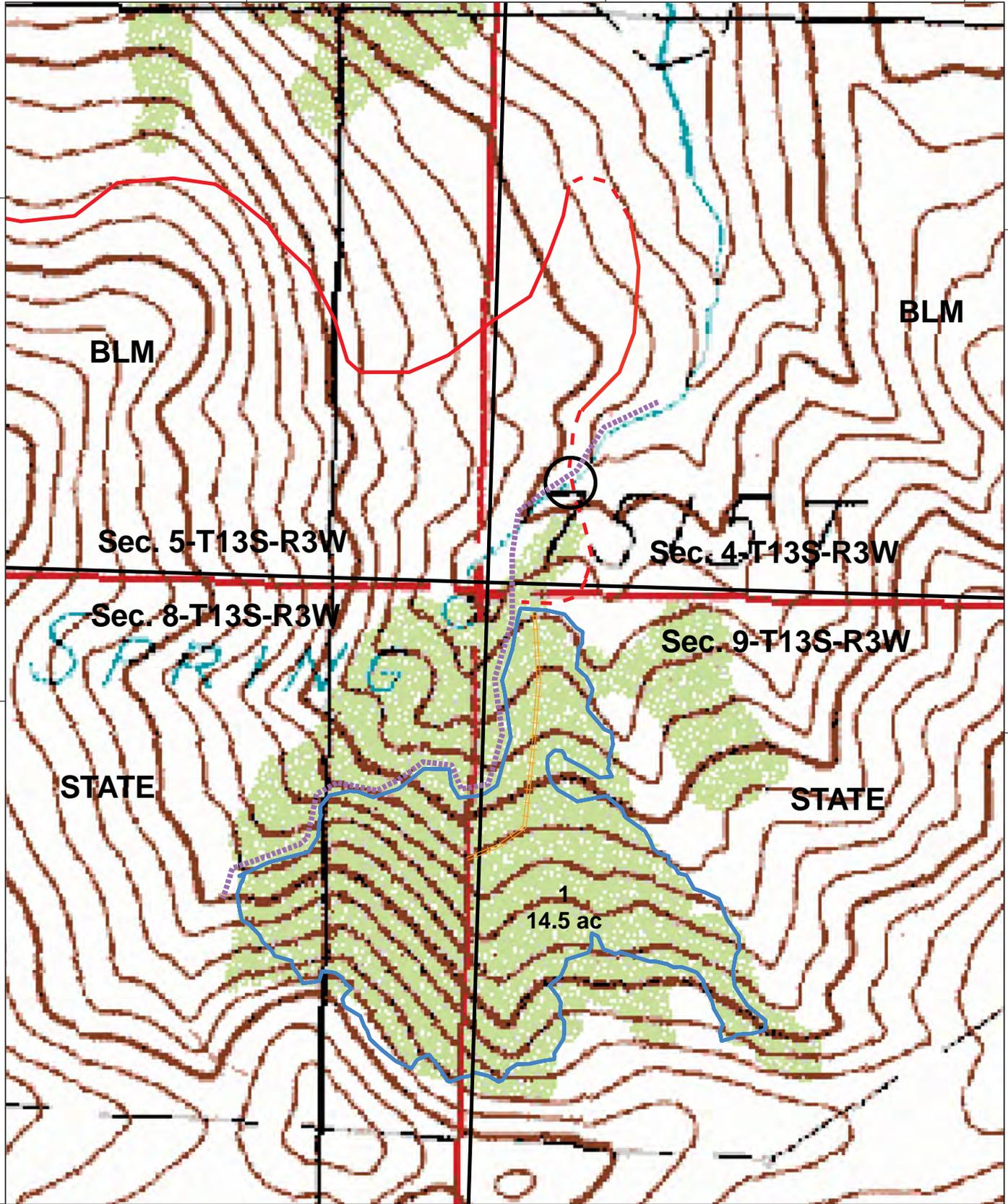
Attachment F - Montana Natural Heritage Program/Montana Fisheries Information System

Attachment G – Elk Security and Vulnerability in the Gravelly EMU and Hunting District 327

Attachment H – BLM Cultural Resource Inventory Report #07-MT-050-54

ATTACHMENT A
Brundage Salvage Timber Permit
Sec. 8/9-T13S-R3W, Beaverhead County

111°59'0"W



111°59'0"W

- Access Road
- - - Temporary New Road
- SMZ
- - - Designated Skid Trail
- Harvest Area
- Culvert Installation

0 125 250 500 Feet

1:4,000



ATTACHMENT B

Vegetative Analysis/Stand Prescription Brundage Salvage Timber Permit

The State parcels are located on the southwestern edge of the Gravelly Range within the grassland interface. Slopes range from 10-55% with an elevation range of 7500-7800 feet. The State parcels have ~33 forested acres which are dominated by Douglas-fir with spruce found in and along the riparian areas. The cover type is Douglas-fir and the habitat type is Douglas-fir/Elk Sedge (Psme/Cage). No harvesting has occurred in the last 50 years within the immediate watershed. The BLM is proposing a timber sale which would harvest ~130 MBF on ~53 acres one-half mile to the northwest of the proposed project.

The cover type is Douglas-fir and forested stands are included in fire group five with Douglas-fir the climax species and a vigorous seral on the drier sites with spruce as a major seral in the riparian areas. The mean fire interval ranged from 10 to 40 years on the drier sites to about 50 to 110 years on the moister sites. Fuel loadings on the drier sites are typically 15 tons/acre and the moister sites are typically 25 tons/acre but can easily exceed this. Historically, the drier sites ranged from low intensity ground fires to intense, mixed-severity events, which maintained mature stands in scattered patches and a more open condition. The spruce sites had very few overmature stands (<1% of the area) due to the small riparian areas it occupied combined with the more frequent fire intervals occurring in the adjacent stand.

The presence of scattered old, open-grown Douglas-fir were likely the result of frequent fires burning at lower intensities on gentle slopes and indicate that much of the project area was likely influenced by relatively frequent fire events. Thus, the presence and absence of forest and grassland patches would have been dynamic, shifting through time. Periodically, sites where conifers presently occur would have appeared more as grassland than forest. Surviving individual trees and clumps of trees in cool areas and gentle ridge tops served as seed sources that would have promoted the periodic regeneration of trees that may or may not have survived subsequent fire events. Historic fire events likely contributed to a naturally fragmented, open-park type community of forest stands at the landscape scale.

Douglas-fir and spruce trees that are less than 150 years old appear to represent forest encroachment due to forest succession and lack of fire disturbance during the past century. Fire suppression efforts have led to an increase in forest cover over the past 100 years. The absence of fire, in combination with encroachment, has resulted in overstocked and suppressed stands. These conditions make the stands more susceptible to fire and attack from insects and disease.

Stand Prescription:

The majority of the unhealthy trees are in the older age classes and would be targeted for harvest while the younger age classes would be favored for the residual stand. Large live trees, live cull trees, snags, cull snags, and coarse woody debris and fine materials would be protected and retained in sufficient quantities where applicable. Submerchantable trees and shrubs would be protected and retained for visual screening.

Severity of stand conditions would dictate harvest method used, emulating low to moderately severe ground fire. Harvest prescription would reduce overstocking and suppression, fire hazard, and susceptibility to additional insect and disease; recover value from timber affected by insect/disease; open the stands to encourage natural regeneration of shade intolerant species; maintain Douglas-fir cover type while bringing the stands back to a more historic open, park like condition; and promote existing aspen stands.

Unit 1 (14.5 ac/115 MBF) - Stand is composed predominately of a mix of DF and spruce small to large sawtimber. No true old growth areas are found in the stand but scattered individuals and small clumps (<2 acres) of old relic Douglas-fir trees do occur within the proposed unit. Overall health and growth of the

stand is fair in the older tree component and good in the younger tree component. The stand is overstocked and suppressed and has spruce budworm damage in the upper crowns and pockets of Douglas-fir bark beetle. Majority of trees have good crown ratios (>30%). Dominate trees are 65-75' and co-dominates are 55-65' with an age range of 100-200 years. Yield capacity is 35-45 cu. ft/acre. Regeneration and understory vegetation is negligible due to heavy livestock use. Coarse woody debris is minimal.

Trees of all age classes exhibiting signs of insect/disease, poor health and/or poor tree form characteristics would be designated for harvest. Additionally, overall stand density would be reduced by 55-75% of the merchantable volume, targeting shade tolerant species and trees exhibiting overstocked/suppressed conditions, utilizing group selection/selection/seed tree harvests. This stand density reduction would be concentrated in areas of the stands containing younger-aged/small to medium sized trees while retaining some of the healthy older trees. Desirable dominate/co-dominate trees would be left for seed source. A regeneration harvest would be utilized within 75-100' of aspen colonies for aspen restoration. One large snag or snag recruit (≥ 21 " dbh) per acre would be left where available. Due to areas of un-operable ground and sub-merchantable timber, islands of unharvested timber would be scattered throughout the stand.

Retain all fine litter and 5-10 tons/acre of large woody debris >3" diameter as feasible. Consolidate remaining slash at landings for burning. Conduct regeneration survey in 7-9 years and a thinning survey in 20-25 years.

There is currently more total forest cover in Beaverhead County than in prior historical conditions. The proposed harvest would involve 44% of the total forested acres within the State parcels and 19.7% of the total forested acres within the immediate watershed. Harvesting an estimated 115 MBF of timber would alter the forest cover on approximately 14.5 acres. Harvest design is intended to maintain a semblance of historic conditions while promoting forest health, vigor and productivity, by removing insect damaged timber and reducing overstocking, through the emulation of mixed severity fires. Natural regeneration would be expected. No rare plants or cover types have been noted or observed within the project area.

MEASURES RECOMMENDED TO MITIGATE POTENTIAL IMPACTS:

- 1) Compliance with Forestry Best Management Practices (BMP's), Streamside Management Zone (SMZ) laws, the Montana Stream Protection Act (124 Permit) and applicable DNRC Forest Management ARMS.
- 2) The temporary stream crossing would comply with the guidelines and specifications stated in the 124 permit and BLM ROW Grant. Proceed with proposed project in accordance with DNRC Attachment 'B' - Road Construction, Improvement and Maintenance Specifications and BLM road use permit and ROW Grant.
- 3) Limit equipment operations to periods when soils are dry (less than 20% soil moisture), frozen or snow covered (12 inches packed or 18 inches unconsolidated) to minimize soil compaction, rutting, vegetative disturbance and maintain drainage features. Control erosion by installing adequate drainage on roads and skid trails. A designated skid trail would be utilized through the northern portion of the harvest unit to protect riparian areas.
- 4) The Forest Officer shall approve a plan for felling, yarding and landing location in each harvest unit prior to the start of operations in the unit. The locations and spacing of skid trails and landings shall be designated and approved by the Forest Officer prior to operations and skid trails will not be spaced less than 60 feet. Retain all fine litter as feasible and 5-10 tons/acre of large woody debris >3" diameter. Minimize soil disturbance by general skid trail planning and limit sustained tractor skidding to slopes $\leq 45\%$. Sustained slopes >45% would be harvested utilizing a winch and cable line. Slash would be left in the harvest units where feasible, and distributed on skid trails upon completion of use, for nutrient cycling, to control erosion and to provide shade and protection for seedlings.
- 5) For slope stability on the road construction segments, construct cutslopes at 1:1 (run/rise) in common material and 1/4:1 for rock. Install adequate road drainage to control erosion concurrent

with harvest activities and road opening and new construction. Provide effective sediment filtration along drainage features near crossing sites. New construction and major skid trails on State lands would be closed with slash and debris and/or barriers, and adequate drainage provided.

- 6) All road and logging equipment would be power washed and inspected prior to being brought on site. Sale area would be monitored for weeds following harvest and a treatment plan would be developed should noxious weeds occur.
- 7) At sale closure, grass seed roads, skid trails (where needed) and landings with an appropriate seed mixture.
- 8) One snag and one snag recruit per acre, of the largest diameter class, would be retained where applicable. Cull live trees and cull snags would be retained where applicable.
- 9) Retain live, healthy older trees and stand attributes suitable for old growth development where available and applicable.
- 10) Contact DNRC wildlife biologist should any threatened or endangered species be encountered within the proposed project area.

ATTACHMENT D

U.S. Department of the Interior Bureau of Land Management

Environmental Assessment MT-050-07-081
May XX, 2010

Lone Butte Timber Sale Road Access

Location: North Centennial Valley
T13S, R3W, sections 4, 5, 6, 8
T13S, R4W, section 1



Lone Butte Timber Sale area

U.S. Department of the Interior
Bureau of Land Management
Dillon Field Office
1005 Selway Drive
Dillon, MT 59725
Phone: (406) 683-8000
Fax: (406) 683-8066

BLM



CHAPTER 1

INTRODUCTION AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

The Bureau of Land Management (BLM) proposes to construct up to 1.5 miles of new temporary road and reconstruct approximately 2.4 miles of existing road in the Fish Creek area of the North Centennial Valley to provide access for the removal of wood products from the Lone Butte Timber Sale. If approved, road construction activities would occur during the timber sale contract period, which is 24 months in length and is expected to begin in May, 2011.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to provide access for the removal of wood products from the Lone Butte Timber Sale. The current designated route into this area (Fish Creek Road) is a primitive road with two seasonally wet crossings which contribute sediment directly to an unnamed tributary to Long Creek during runoff events. A route which meets State of Montana Best Management Practices (BMPs) is needed to access the Lone Butte Timber Sale.

CONFORMANCE WITH BLM LAND USE PLAN(S)

The proposed action is in conformance with the Dillon Resource Management Plan approved in February 2006. Treatment of the Lone Butte Timber Sale was analyzed under the Centennial Watershed Environmental Assessment (EA) (#MT-050-05-02), completed in September 2005. This EA, addressing the specifics of road construction activities, is tiered to the Centennial Watershed EA.

CHAPTER 2

DESCRIPTION OF ALTERNATIVES

INTRODUCTION

This EA focuses on the Proposed Action and the No Action alternative. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the action alternatives.

NO ACTION

The No Action Alternative would be to deny road construction and reconstruction. With this alternative, there would be no suitable access to complete the Lone Butte Timber Sale.

PROPOSED ACTION

Under the Proposed Action, BLM would complete construction of up to 1.5 miles of new temporary road, and minor reconstruction on approximately 2.4 miles of existing road (see attached location map - Appendix A). Upon completion of harvest operations, new temporary roads and existing closed roads would be physically closed by construction of dirt "Kelly Humps" and/or signing at key points to clearly indicate closed roads.

Road work would be performed in accordance with State of Montana BMPs and Streamside Management Zone (SMZ) Law and Rules to a minimum standard necessary for the removal of timber and safe travel operations. As per contract stipulations, all off-road equipment would be required to be power washed to remove weeds and weed seed prior to entering the contract area.

Reconstruction of the existing road would consist of minimal blading necessary to remove rock and/or vegetative material that would impair safe use of the road, installation of drainage features, placement of fill

material where necessary, and a minor re-route of up to 200 feet. Removal of established vegetation on roads would be avoided except where it is necessary for safe use and/or proper road drainage.

The majority of new temporary road construction would begin on Montana Department of Natural Resources and Conservation (DNRC) land and would end on BLM-administered lands. This road location was designed to eliminate wet area crossings. Additionally, a short stretch (approximately ¼ mile) of new road would also be constructed to connect existing roads on BLM-administered land. Road construction generally requires about 18 to 20 feet of cleared vegetation, with a finished road surface width of 12 feet. Generally road grade would not exceed 12%.

CHAPTER 3

AFFECTED ENVIRONMENT/ENVIRONMENTAL IMPACTS

INTRODUCTION AND GENERAL SETTING

This EA addresses road access to complete the Lone Butte Timber Sale, which was analyzed for treatment under the Centennial Watershed EA (MT-050-05-02), completed in September 2005. Under the Centennial Watershed EA, the Lone Butte Timber Sale project area was identified as Unit N1, and access to the project area was expected to use existing roads only. Upon closer inspection of the existing route on the ground, it was determined that the existing Fish Creek Road would not be suitable for log truck traffic without major reconstruction of the existing stream crossing and approaches. The Fish Creek Road is an old two track which is not maintained and is deeply rutted with little to no rock base, and closely parallels an unnamed tributary to Long Creek and an associated drainage for over one mile. The stream crossing locations, located on Forest Service administered land, are at the bottom of a steep hill with limited opportunities for sediment diversion or entrapment. These two seasonally wet crossings contribute sediment directly to an unnamed tributary to Long Creek during runoff events.

The existing road proposed for minor reconstruction has more rock base material and is generally more suitable for heavier traffic than the Fish Creek Road. This road is located on a dry ridge away from waterways and does not cross any streams. Approximately 0.65 miles of existing road to be reconstructed is currently designated “open” route; the remaining 1.75 miles is designated “closed”.

The proposed new road construction is located in drier sagebrush/grasslands, and is located away from springs and wet areas. The proposed new road does not cross any streams.

A Class III cultural resource inventory did not identify any historic properties or significant cultural resources in the area proposed for road construction or reconstruction. A botanical field inventory did not identify any sensitive plants in the area.

Critical Elements of the Human Environment, as defined by BLM Manual 1790-1, must be considered in all BLM EAs and EISs. None of the Critical Elements would be affected by the Proposed Action.

ANTICIPATED ENVIRONMENTAL IMPACTS

No Action

The No Action alternative would not meet the purpose and need for the proposed action. Under the No Action alternative, there would be no road construction or reconstruction, and therefore there would be no access to complete the Lone Butte Timber Sale. Effects of not implementing the Lone Butte Timber Sale were fully analyzed under the No Action alternative in the Centennial Watershed EA, and include:

- Stand density and structure would continue to be departed from historic conditions without a natural disturbance.
- Aspen would continue to decline, and may become non-existent in some areas.
- Stands would continue to be susceptible to bark beetle activity; attack by bark beetles would cause increased tree mortality, increased fuel loading, and the potential for more severe impacts from wildland fire and insects/disease as compared to historic levels.

Impacts associated with road building and reconstruction would not occur under the No Action alternative. There would be no ground disturbance, and therefore no increased potential for erosion or spread of invasive species. There would be no impacts to cultural resources or sensitive species under the No Action alternative.

PROPOSED ACTION

Direct and Indirect Impacts of the Proposed Action

Implementing the Proposed Action would allow access to implement the Lone Butte Timber Sale and achieve the objectives associated with that project, which were identified in the Centennial Watershed EA and include:

- Increased residual stand health.
- Decreased intrastand competition; increase of available moisture and nutrients to residual stand.
- Decreased potential for stand replacing wildfire.
- Restoration of Douglas-fir savannah structure.
- Revitalization and increased regeneration in aspen stands.

Implementing the Proposed Action would result in constructing up to 1.5 miles of new temporary road and reconstructing 2.4 miles of existing road. Road construction and reconstruction would result in ground disturbance, which has the potential to increase erosion and spread of invasive species. Road design features, including installation and maintenance of drainage features, would reduce erosion potential related to ground disturbance. Existing roads with inadequate drainage features would be upgraded under the Proposed Action, reducing erosion potential and improving the road surface more than under the No Action alternative. The requirement to power wash equipment prior to entering the contract area would reduce the potential for spread of invasive species from construction activity. Both the cultural resource and botanical inventories concluded there would be no impacts to these resources as a result of the road construction and reconstruction activity.

As the timber sale is implemented, traffic associated with logging operations would increase temporarily. However, sediment input into the unnamed tributary to Long Creek would be avoided by using the proposed route which avoids wet areas and stream crossings. Implementing the Proposed Action would provide an access route which meets State of Montana BMPs.

Post-treatment road closure is expected to be effective in precluding vehicle use. Currently, the existing roads that are designated “closed” do not have any physical barriers on them. Implementing the Proposed Action and physically closing these roads is expected to be more effective at reducing unauthorized use on these existing roads than under the No Action alternative.

CUMULATIVE IMPACTS

Cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions.

The Dillon Unit of the DNRC plans to harvest approximately 20 acres of timber on State lands to the southwest of the project area in section 8. Construction of approximately 650 feet of new temporary road for access and log hauling would be associated with this timber harvest. This harvest would result in an increase of

approximately 35 truck loads of timber being hauled over the proposed designated route and Long Creek bridges. Impacts from this cumulative action are anticipated to be similar to those identified above.

CHAPTER 4

PERSONS, GROUPS, AND AGENCIES CONSULTED

During preparation of this EA, the public was notified of the proposed action through a posting on the Dillon Field Office NEPA Register on August 13, 2007. Extensive public involvement was also conducted during the Centennial Watershed EA; see Chapter 4 of the EA.

The following persons and agencies were consulted regarding this Proposed Action:

Chuck Barone, Forester, Montana DNRC

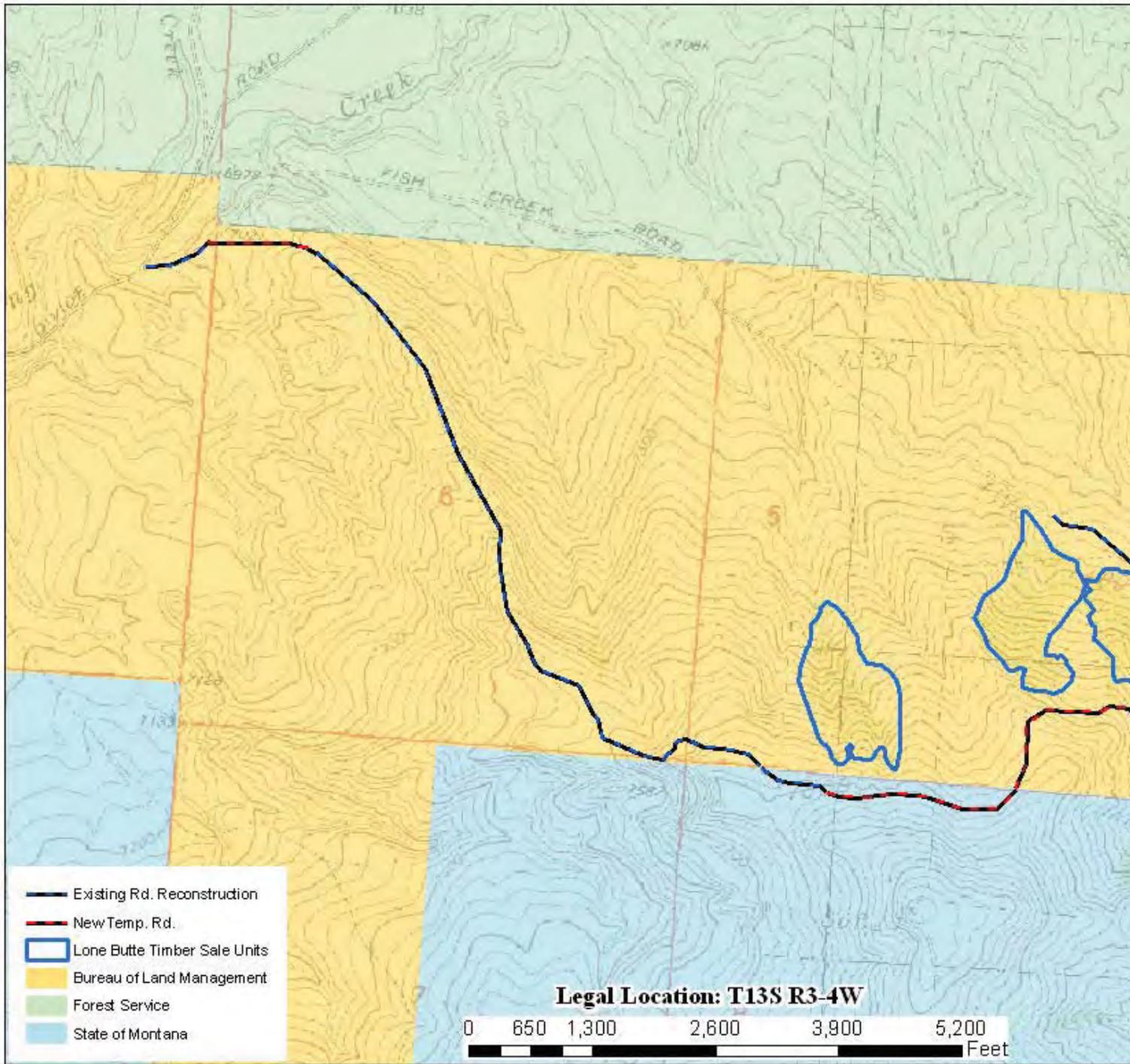
Mark Petroni, District Ranger, Forest Service Madison Ranger District

Kevin Suzuki, Forest Service Madison Ranger District

Sue Heald, Forest Service Madison Ranger District

APPENDICES

Appendix A – Lone Butte Timber Sale Road Access Map



ATTACHMENT E
BRUNDAGE SALVAGE TIMBER PERMIT

CHECKLIST FOR ENDANGERED, THREATENED AND SENSITIVE SPEICES
Pertains to Section II. 9. of the DS-252 DNRC Environmental Checklist
CENTRAL LAND OFFICE

Prepared by Chuck Barone

December 2, 2010

| Threatened and Endangered Species | [Y/N] Potential Impacts and Mitigation Measures N = Not Present or No Impact is Likely to Occur Y = Impacts May Occur (Explain Below) |
|---|---|
| <p>Gray Wolf (<i>Canis lupus</i>) Habitat: ample big game pops., security from human activity</p> | <p>[N] The proposed project area falls within the Yellowstone Nonessential Experimental Area for gray wolves. The nearest packs are the Horn Mtn. pack and the Centennial pack. Individuals from these packs or transients from other packs could occasionally use portions of the proposed project area; however, due to the size, nature, duration and location of the proposed project, activities associated with this proposal are not expected to effect wolves or recovery efforts. Should a new den be located within one mile of the proposed project area, activities would cease and a DNRC Biologist would be contacted immediately. Mitigations would then be developed and implemented to minimize adverse impacts to wolves prior to initiating any activity.</p> |
| <p>Grizzly Bear (<i>Ursus arctos</i>) Habitat: recovery areas, security from human activity</p> | <p>[N] The proposed project area is situated approximately 23 miles west of the Greater Yellowstone Ecosystem Grizzly Bear Recovery Zone. In recent years, grizzly bears have been documented ranging greater distances outside of the Yellowstone Ecosystem. Grizzly bears have not been documented in the vicinity of the proposed project area although the proposed project area lies within a zone considered as occupied habitat (Interagency Occupied Habitat Map, September 2002). As such, the lands in the general vicinity of Red Rocks Lakes were identified as those where one would reasonably expect to find grizzly bear use occurring during most years. DNRC is not aware of any specific observations of grizzly bears associated with the proposed project area; however, periodic or transient use is possible. Riparian habitats preferred by bears do not occur within the proposed project area. The dry draws support relatively low levels of hiding cover and human access levels are presently moderate to high. Present hiding cover is composed predominately of scattered patches of Douglas-fir within the proposed project area and ranges from low to moderate due to the more open nature of these stands. ~625 feet of temporary, minimum standard new road would be constructed (100 feet on State</p> |

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| | <p>and 525 feet on BLM) and would be physically closed with slash, debris or barriers at project completion. Proposed project activities would not occur during the spring period. Proposed project activities would be short-term in nature. Should contractors camp on site during project activities, food and garbage would be contained in a bear resistant manner (i.e., in a vehicle, hard sided camper or building, etc.). The potential for any measurable increases in bear-human conflicts following the project activities are expected to be low. Adverse direct, indirect and cumulative impacts to bears as a result of this project are expected to be minimal.</p> |
| <p>Lynx (<i>Felis lynx</i>) Habitat: mosaics--dense sapling and old forest >5,000 ft. elev.</p> | <p>[N] The proposed project area is located along the far outer fringes of preferred lynx habitat in rangeland and predominately non-forested foothills. Lynx habitat on the two State parcels would be categorized as "other" (11.4 acres) and mature foraging (11.3 acres) habitat. Additionally, there are ~11.5 acres of "temporary non" habitat with the remaining 1,247 acres being rangeland. Of the ~23 acres of potential lynx habitat (other and mature foraging) on the State parcels, ~8.5 acres of "other" habitat and ~6 acres of mature foraging habitat are proposed for timber harvest which would convert ~ 14.5 acres to temporary non-habitat. Preferred lynx habitat is marginal within the proposed project area due to the rangeland location and lack of highly desirable habitat conditions for lynx and their primary prey, snowshoe hares. Adverse direct, indirect or cumulative impacts to lynx as a result of this project are expected to be negligible.</p> |

| | |
|--|--|
| <p>DNRC Sensitive Species</p> | <p>[Y/N] Potential Impacts and Mitigation Measures N = Not Present or No Impact is Likely to Occur Y = Impacts May Occur (Explain Below)</p> |
| <p>Bald Eagle (<i>Haliaeetus leucocephalus</i>) Habitat: late-successional forest <1 mile from open water</p> | <p>[N] Bald Eagles have been documented within the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). No nesting habitat occurs on, or within one mile of the proposed project area, and the project area occurs outside of any bald eagle nesting home range. Thus, no direct, indirect or cumulative effects to bald eagles associated with this project are anticipated.</p> |

| | |
|---|--|
| <p>Black-Backed Woodpecker (<i>Picoides arcticus</i>) Habitat: mature to old burned or beetle-infested forest</p> | <p>[N] Black-backed woodpeckers have not been documented within the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). However, stands found within the proposed project area are presently experiencing insect activity and could attract birds. No recent burns (≤ 5 years old) have occurred within the State tracts or adjoining sections. Due to the small size, location and short duration of this proposed project only minor potential for direct, indirect or cumulative effects to black-backed woodpeckers would be expected to occur.</p> |
| <p>Black-tailed Prairie Dog (<i>Cynomys ludovicianus</i>) Habitat: grasslands, short-grass prairie, sagebrush semi-desert</p> | <p>[N] Grassland habitats suitable for use by black-tailed prairie dogs do not occur within one mile of the proposed project area. Impacts to black-tailed prairie dogs are not anticipated.</p> |
| <p>Flammulated Owl (<i>Otus flammeolus</i>) Habitat: late-successional ponderosa pine and Douglas-fir forest</p> | <p>[N] Flammulated owls have not been documented within the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). The parcel involved in the proposed project maintains an elevation of 7500-7800 feet. Flammulated Owls have been found in warm, dry Douglas-fir cover types. The parcels involved in this project have similar vegetative conditions but the associated higher elevations are not their preferred habitat. Direct, indirect and cumulative effects to Flammulated Owls would not be expected to occur under the alternatives considered.</p> |
| <p>Sage Grouse (<i>Centrocercus urophasianus</i>) Habitat: sagebrush semi-desert</p> | <p>[N] Sage Grouse have been documented in the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). Sagebrush semi-desert habitats suitable for use by Sage Grouse do occur within one mile of the project area. The area surrounding the proposed project has been identified as a core and lek area. No leks have been identified within one mile of the project area or along the main haul route. Should sage grouse be present in the vicinity of the project area, any effects to habitat or disturbance-related effects would be expected to be minimal, due to the late start-up date of activities (i.e., post June 15), and preferred sagebrush habitat would not be altered. Impacts to Sage Grouse are not anticipated.</p> |
| <p>Harlequin Duck (<i>Histrionicus histrionicus</i>) Habitat: white-water streams, boulder and cobble substrates</p> | <p>[N] Harlequin ducks have not been documented in the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). No high gradient streams suitable for use by harlequins occur within the project area or along proposed haul routes. No impacts to harlequin ducks would be expected to occur as a result of this project.</p> |
| <p>Mountain Plover (<i>Charadrius montanus</i>) Habitat: short-grass prairie, alkaline flats, prairie dog towns</p> | <p>[N] Mountain Plovers have not been documented in the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). No short-grass</p> |

| | |
|---|--|
| | prairie or prairie dog towns occur on, or within one mile of the proposed project area. No impacts to mountain plovers are expected as a result of this project. |
| Northern Bog Lemming (<i>Synaptomys borealis</i>) Habitat: sphagnum meadows, bogs, fens with thick moss mats | [N] No sphagnum meadows or bogs occur in the proposed project area. Thus, no impacts to bog lemmings would be expected to occur as a result of this project. |
| Peregrine Falcon (<i>Falco peregrinus</i>) Habitat: cliff features near open foraging areas and/or wetlands | [N] Peregrine Falcons have been documented within the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). No cliff features suitable for use by nesting peregrine falcons are known to occur within 1 mile of the project area. No direct, indirect or cumulative effects associated with this project are anticipated. |
| Pileated Woodpecker (<i>Dryocopus pileatus</i>) Habitat: late-successional ponderosa pine and larch-fir forest | [N] Pileated woodpeckers have been documented within the quarter latilong (L47A) that encompasses the proposed project area (Skaar 1996, MNHP 2010). The project area is poorly suited for use by pileated woodpeckers. Due to the small size, location and short duration of this proposed project and as suitable habitat is not present in the project area; no impacts to pileated woodpeckers would be expected to occur as a result of this project. |
| Townsend's Big-Eared Bat (<i>Plecotus townsendii</i>) Habitat: caves, caverns, old mines | [N] The DNRC is unaware of any mines or caves within the proposed project area or close vicinity that would be suitable for use by Townsend's big-eared bats. Impacts to Townsend's big-eared bats are not anticipated as a result of this project. |

*Skaar, P.D. 1996. Montana bird distribution, fifth edition. Montana National Heritage Program 2010. National Heritage Tracker.



Natural Resource Information System
 Montana State Library
 P.O. Box 321890
 Helena, MT 59620-1890
 (406)444-3008 mtnhp@mt.gov

ATTACHMENT F

Species of Concern Data Report

Visit <http://mtnhp.org> for additional information.

Report Date:
 Friday, December 3, 2010

Haliaeetus leucocephalus

[View Species Info in MT Field Guide](#)

Common Name: Bald Eagle

Description: Vertebrate Animal

Mapping Delineation:

Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding ter

Species Status

Natural Heritage Ranks:

State: S3
 Global: G5

Federal Agency Status:

U.S. Fish & Wildlife Service: DM
 U.S. Forest Service: THREATENED
 U.S. Bureau of Land Management: SENSITIVE

[Click for Status Help](#)

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

| | | | |
|--------------------------------------|---------------|-------------------|---------|
| Species Occurrence Map Label: | 182555 | SO Number: | 419,084 |
| First Observation Date: | 1993-03-01 | Acreage: | 3,089 |
| Last Observation Date: | 1999-08-01 | SO Rank: | |

Centrocercus urophasianus

[View Species Info in MT Field Guide](#)

Common Name: Greater Sage-Grouse

Description: Vertebrate Animal

Mapping Delineation:

Confirmed breeding area based on the presence of a nest, chicks, juveniles, or adults on a lek. Point observation location is buffered by e

Species Status

Natural Heritage Ranks:

State: S2
 Global: G4

Federal Agency Status:

U.S. Fish & Wildlife Service: C
 U.S. Forest Service: SENSITIVE
 U.S. Bureau of Land Management: SENSITIVE

[Click for Status Help](#)

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

| | | | |
|--------------------------------------|---------------|-------------------|---------|
| Species Occurrence Map Label: | 189243 | SO Number: | 725,195 |
| First Observation Date: | 2002-04-01 | Acreage: | 31,636 |
| Last Observation Date: | 2006-05-15 | SO Rank: | |

| | | | |
|--------------------------------------|---------------|-------------------|---------|
| Species Occurrence Map Label: | 189245 | SO Number: | 717,270 |
| First Observation Date: | 2003-04-01 | Acreage: | 31,636 |
| Last Observation Date: | 2004-05-15 | SO Rank: | |



Natural Resource Information System
Montana State Library
PO Box 201609
Helena, MT 59620-1609
(406)444-3099 mtnhp@mt.gov

Species of Concern Data Report

Visit <http://mtnhp.org> for additional information.

Report Date:
Friday, December 3, 2010

Species Occurrences

| | | | |
|-------------------------------|------------|------------|---------|
| Species Occurrence Map Label: | 189247 | SO Number: | 386,244 |
| First Observation Date: | 1976-08-29 | Acreage: | 31,636 |
| Last Observation Date: | 1976-08-29 | SO Rank: | |

Canis lupus

[View Species Info in MT Field Guide](#)

Common Name: Gray Wolf

Description: Vertebrate Animal

Mapping Delineation:

U.S. Fish and Wildlife Service recovery area boundaries for northwestern Montana where populations are classified as Endangered and s

Species Status

Natural Heritage Ranks:

State: S4
Global: G4

Federal Agency Status:

U.S. Fish & Wildlife Service: LE, XN
U.S. Forest Service: SENSITIVE
U.S. Bureau of Land Management: SENSITIVE

[Click for Status Help](#)

FWP CFWCS Tier: 1

MT PIF Code:

Species Occurrences

| | | | |
|-------------------------------|--------|------------|------------|
| Species Occurrence Map Label: | 218198 | SO Number: | 45 |
| First Observation Date: | | Acreage: | 36,979,424 |
| Last Observation Date: | | SO Rank: | |

Long Creek
River Mile: 0 to 19.5
Miles: 19.5
Total Stream Miles: 19.5
HUC: Red Rock (10020001)
Tributary To: Red Rock River
Regions: Region 3
Counties: Beaverhead; Madison

Fish Distribution

[Download Data](#)

| Begin Mile | End Mile | Species | Abundance | Use Type | Life History | Origin | Genetic Status | Data Rating | Data Source |
|------------|----------|---------------------------|-----------|---------------------|----------------|------------|--|---|-------------|
| 0 | 15.1 | Brook Trout | Rare | Year-round resident | Not applicable | Introduced | Not Applicable | No Survey, Professional judgment | FWP |
| 0 | 16 | Longnose Sucker | Common | Year-round resident | Not applicable | Native | Not Applicable | Extrapolated from a single survey/observation | FWP |
| 0 | 15.1 | Mottled Sculpin | Abundant | Year-round resident | Not applicable | Native | Not Applicable | No Survey, Professional judgment | FWP |
| 0 | 15 | Westslope Cutthroat Trout | Rare | Year-round resident | Resident | Native | 90.0%-99.9% pure based on genetic analysis | Extrapolated from multiple surveys/observations | FWP |

Genetic Samples

[Download Data](#)

| Date: 8/19/2002 | | | |
|----------------------------------|---------|--|--------|
| Sample #: 3170 | | | |
| Collector: Brammer, Jim | | Target Species: Westslope Cutthroat Trout | |
| River Miles: 14.3 to 14.4 | | # of Fish: 4 | |
| Analysis Type: PINES | | Comments: | |
| Analyzer: Spruell, Paul | | | |
| Species Name | Percent | Count | Hybrid |
| Westslope Cutthroat Trout | 81 | - | - |
| Yellowstone Cutthroat Trout | 17 | - | - |
| Rainbow Trout | 2 | - | - |
| Date: 7/20/1990 | | | |
| Sample #: 398 | | | |
| Collector: Browning, Dave | | Target Species: Westslope Cutthroat Trout | |
| River Miles: 14.1 to 14.2 | | # of Fish: 6 | |
| Analysis Type: Allozymes | | Comments: | |
| Analyzer: Leary, Robb | | | |
| Species Name | Percent | Count | Hybrid |
| Westslope Cutthroat Trout | 91 | - | - |

| | | | |
|-----------------------------|---|---|---|
| Yellowstone Cutthroat Trout | 9 | - | - |
|-----------------------------|---|---|---|

Habitat Measurements

[Download Data](#)

Section: 5740010349
River Miles: 14.4 to 14.5

| Date | Time | Collector | Parameter | Value | Unit |
|-----------|----------|--------------|------------------|-------|-------|
| 8/19/2002 | 11:29 AM | Opitz, Scott | Air Temp | 22 | Deg C |
| 8/19/2002 | 11:29 AM | Opitz, Scott | Avg Wetted Width | 2 | m |
| 8/19/2002 | 11:29 AM | Opitz, Scott | Conductivity | 230 | µS/cm |
| 8/19/2002 | 11:29 AM | Opitz, Scott | pH | 7.9 | NA |
| 8/19/2002 | 11:29 AM | Opitz, Scott | Stream Type | E3 | NA |
| 8/19/2002 | 11:29 AM | Opitz, Scott | Water Temp | 10 | Deg C |

Section: 5741010349
River Miles: 14.9 to 15

| Date | Time | Collector | Parameter | Value | Unit |
|-----------|----------|--------------|------------------|-------|-------|
| 8/19/2002 | 12:23 PM | Opitz, Scott | Air Temp | 23 | Deg C |
| 8/19/2002 | 12:23 PM | Opitz, Scott | Avg Wetted Width | 0.5 | m |
| 8/19/2002 | 12:23 PM | Opitz, Scott | Conductivity | 290 | µS/cm |
| 8/19/2002 | 12:23 PM | Opitz, Scott | pH | 7.2 | NA |
| 8/19/2002 | 12:23 PM | Opitz, Scott | Stream Type | E3 | NA |
| 8/19/2002 | 12:23 PM | Opitz, Scott | Water Temp | 13 | Deg C |

Section: 5742010349
River Miles: 15.5 to 15.6

| Date | Time | Collector | Parameter | Value | Unit |
|-----------|---------|--------------|------------------|-------|-------|
| 8/19/2002 | 1:08 PM | Opitz, Scott | Air Temp | 23 | Deg C |
| 8/19/2002 | 1:08 PM | Opitz, Scott | Avg Wetted Width | 0.5 | m |
| 8/19/2002 | 1:08 PM | Opitz, Scott | Conductivity | 310 | µS/cm |
| 8/19/2002 | 1:08 PM | Opitz, Scott | pH | 7.7 | NA |
| 8/19/2002 | 1:08 PM | Opitz, Scott | Stream Type | E4 | NA |
| 8/19/2002 | 1:08 PM | Opitz, Scott | Water Temp | 14 | Deg C |

Section: 5743010349
River Miles: 16.1 to 16.2

| Date | Time | Collector | Parameter | Value | Unit |
|-----------|---------|--------------|------------------|-------|-------|
| 8/19/2002 | 2:11 PM | Opitz, Scott | Air Temp | 23 | Deg C |
| 8/19/2002 | 2:11 PM | Opitz, Scott | Avg Wetted Width | 1 | m |
| 8/19/2002 | 2:11 PM | Opitz, Scott | Conductivity | 310 | µS/cm |
| 8/19/2002 | 2:11 PM | Opitz, Scott | pH | 7.6 | NA |
| 8/19/2002 | 2:11 PM | Opitz, Scott | Stream Type | E4 | NA |
| 8/19/2002 | 2:11 PM | Opitz, Scott | Water Temp | 15 | Deg C |

ATTACHMENT G

Elk Security and Vulnerability in the Gravelly EMU and Hunting District 327

The Gravelly Range is an isolated range that occurs in southwest Montana. The southern end of the Gravelly Range lies just north of the Centennial Valley. This area is part of the FWP Gravelly Elk Management Unit (EMU) and includes Hunting District 327. Habitats found within Hunting District 327 range from grassland-sagebrush along foothills at lower elevations (~6,000 feet) to those at the highest elevations (up to ~9,500 feet) characterized by rocks, scree, whitebark pine and subalpine fir. Mature Douglas-fir and lodgepole pine forests dominate vegetation communities found at mid-elevations. Historic fire events likely contributed to a naturally fragmented patchy distribution of forest stands at the landscape level.

The following terminology is used to describe elk habitat values in the context of the proposed project area and is consistent with Lyon and Christensen (1992).

Security - The protection inherent in any situation that allows elk to remain in a defined area despite an increase in stress or disturbance associated with the hunting season or other human activities.

Hiding Cover (functional def.) – Hiding cover allows elk to use areas for bedding, foraging, thermal relief, wallowing, and other functions year-round. Hiding cover may contribute to security at any time, but it does not necessarily provide security during the hunting season.

Elk Vulnerability – A measure of elk susceptibility to being killed during the hunting season.

Criteria for security cover developed for forests in western Montana by Hillis et al. (1991) requires a minimum of 250 acres of mature timber (contiguous and non-linear) that is $\geq 1/2$ mile from an open road during hunting season.

Timber harvest can increase elk vulnerability by changing the size, structure, juxtaposition and accessibility of areas that provide security during hunting season (Hillis et al. 1991). As visibility and accessibility increase within forested landscapes, elk have a greater probability of being observed and subsequently harvested by hunters. Because the cow segment of the harvest is normally regulated carefully, primary concerns are related to substantial reduction of the bull segment and subsequent decrease in hunter opportunity. The presence of fewer mature bulls early in the hunting season reduces the odds of any given hunter to see or harvest such an animal throughout the remainder of the 5-week season. Forested stands within and surrounding the proposed harvest units do not meet the Hillis et al. (1991) definition of security cover, due to their small size and accessibility by motorized vehicles. However, the forested patches in the proposed project area have value for hiding cover, which can serve to lower bull elk vulnerability. Retaining the greatest amounts of dense forest cover possible would pose the least risk of increasing elk vulnerability from present levels. The greater numbers of elk that use a particular area, the more important cover patches are as they serve to reduce vulnerability of a greater portion of animals.

The proposed project area lies within FWP Hunting District 327 and it occurs in important habitat for elk. Within this Elk Management Unit, FWP has stated challenges to..."reduce hunter crowding while maintaining hunter opportunity" (FWP 2004). Bull elk vulnerability and limited security cover are additional challenges expressed by FWP in this hunting district and the Gravelly EMU (FWP 2004). Overcoming these challenges can be hampered when available cover at the landscape level is reduced appreciably through timber harvest activities, road management, or natural disturbances, such as large-scale stand-replacement wildfires.

Within the Gravelly EMU and Hunting District 327, the total acreage of cover patches that are greater than 247 acres was estimated to be 485,931 and 162,348 acres respectively (converted from data

presented in Hamlin and Ross 2002). However, cover patches greater than 247 acres make up only 27.8% of the Gravelly EMU administrative area and 36% of Hunting District 327 (Hamlin and Ross 2002).

Terrain in this hunting district is open and gentle, which allows relatively easy access to motorized vehicles. Access considerations coupled with low hiding and security cover levels in this Hunting District offer challenges to managing elk populations and hunters (Hamlin and Ross 2002). Additional reductions in hiding cover and/or security habitat may influence achievement of FWP's harvest goal for this Hunting District and EMU.

Effects on Elk Security and Vulnerability:

Under the No Action alternative, no immediate change from the present condition would occur. Hiding cover and access would remain essentially unchanged. Over time, and in the absence of wildfires, conifer cover would continue to mature and develop into dense forest, further increasing amounts of hiding cover and size of potential security blocks. The extent to which forested areas such as those occurring on the proposed project area may serve as sink source habitats (Pullium 1988) for elk is unknown. Given available local information, selection of this alternative is presumed to provide the lowest risk of increasing elk vulnerability over the short term and over the long term (>20 years) in the absence of wildfires or other natural disturbance agents. Subsequently, it is expected that bull elk survival and hunter opportunity would have the least risk of being impacted under this alternative.

Under the Action alternative, ~ 14.5 acres of hiding cover would be altered, reducing that which would be available to elk during the general hunting season. In conjunction with harvest activities, the proposed road segments would be physically closed and obstructed to minimize the potential for increased motorized access from existing levels. This would likely have a minor influence on mitigating elk vulnerability within the proposed project area, due to the high inherent accessibility of the open terrain.

While elk populations and hunter pressure have substantially increased, there has been no impact on the amount of cover available within the project area due to timber management activities or natural disturbances. Timber harvest activities have not created a significant reduction in forest cover in the Gravelly EMU, while fire suppression activities have tended to slowly increase the amount of available forest cover over time. There is currently more total forest cover in the Gravelly EMU than in prior historical conditions. The partial removal of some of this cover is consistent with natural processes.

Proposed harvest unit 1 has never been harvested. Visual screening properties of hiding cover would change considerably following the proposed harvest. Visual obstruction would be provided by smaller patches and stringers of mature and sub merchantable trees. Leave trees will be retained in a clumped distribution to minimize sight distance where opportunities exist. Mature forest could have hiding cover value reduced by up to 70% in some treated portions of the stand with the basal area of mature trees being reduced by approximately 50%. Hiding cover value would likely be reduced by a similar proportion. Connectivity of forest patches to other nearby mature forest would remain poor, as stands in the proposed project area are naturally isolated. Reducing 14.5 acres of hiding cover would potentially represent a 44% cumulative reduction on State lands within the proposed project area. Moderate proportional increases in elk vulnerability could be expected for elk that use this area.

Within the context of Hunting District 327 and the Gravellys EMU, cover removal associated with the proposed project would result in a minor adverse contribution to cumulative effects, but would be additive to other timber harvests occurring within these administrative boundaries on state trust lands and other ownerships. The BLM is proposing a timber sale which would harvest ~130 MBF on ~53 acres one-half mile to the northwest of the proposed State project. This could result to some degree, in increasing the difficulty that FWP could have in meeting their Elk Plan objective for maintaining bull harvest below 45-50% during the first week of the general big game hunting season. Effects associated with this proposal would likely be difficult to detect in the population at the Hunting District level. However, over a broader cumulative acreage considered at the EMU scale, risk of hunter harvest rate increases during the first week of the general hunting season is present until recovery of hiding cover and/or security cover can occur. Recovery of forest cover in this area can take several decades to a century, depending upon

growing conditions of a site and the intensity of the treatment implemented. Any potential direct disturbance or displacement of elk due to harvest operations would be minor and of short duration (i.e., logging and road construction activity occurring within a three month period).

The access route to the proposed project area would require constructing ~625 feet of temporary, new road. Open road densities are moderate and cover capable of providing security is minimal in this area. Elk that might use this area would likely have a greater potential for vulnerability if the route were to remain accessible. The actual extent of increase is uncertain as many factors can influence vulnerability (e.g. size, extent and juxtaposition of security areas and migration corridors; type, structure, amount and density of vegetation; road density; ease of human accessibility, hunting pressure, hunting regulations, and hunter behavior, etc.) (FWP 1992). Variations in weather conditions from year to year can also influence elk vulnerability. 70% of the new road would be closed by placing slash, debris and/or installing barriers on the road surface at the end of activities. By implementing mitigation efforts such as scattering slash/debris, installing barriers and seeding, motor vehicle and foot travel on these routes would essentially be negated. Minimal cumulative influences on access would be anticipated following road slashing efforts.

Literature Cited

Hamlin, K.L. and M.S. Ross. 2002. Effects of hunting regulation changes on elk and hunters in the Gravelly-Snowcrest Mountains, Montana. *Mont. Fish, Wildlife, and Parks, Fed. Aid Proj. W-120-R-April 2002.* 237pp.

Hillis, J.M., and M.J. Thompson, J.E. Canfield, L.J. Lyon, C.L. Marcum, P.M. Dolan, and D.W. McCleerey. 1991. Defining elk security: the Hillis paradigm. pp.38-43 *in* A.G. Christensen, L.J. Lyon, and T.N. Lonner, comps., *Proc. Elk Vulnerability Symp.*, Mont. State Univ., Bozeman, MT. 330pp.

Lyon, L.J., and A.G. Christensen. 1992. A partial glossary of elk management terms. U.S. For. Serv. Gen. Tech Rept. INT-288. 6 pp.

MFWP 2004. Montana Statewide Elk Management Plan. Mont. Dept. Fish, Wildlife and Parks. Wildlife Division. Helena, MT. 397 pp.

MFWP 1992. Montana elk management plan. Mont. Dept. Fish, Wildlife and Parks. Wildlife Division. Helena, MT. 170 pp.

Pulliam, H.R. 1988. Sources, sinks, and population regulation. *Am. Nat.* 132:652-661.

Department of Interior
 Bureau of Land Management
 Montana State Office
 Cultural Resources Class III
 Inventory Report

Inventory Report Number: 07-MT-050-54

Project Name: N1 Timber Harvest

State: Montana **County:** Beaverhead **BLM Field Office:** Dillon Field Office

Topographic Map: Metzel Creek, MT - USGS 7.5' **Base Meridian:** MPM

Location: Township 13S Range 3W Section 5
 SE ¼, SW ¼
 NW ¼, SE ¼
 NE ¼, SE ¼

From Monida, proceed east along the Centennial Valley road for approximately 9 miles. Head north to Vons Bridge and then east to Long Creek road. Follow Long Creek road for approximately 7.5 miles and exit onto road 9627. Follow this rough two-track 3.3 miles to the timber harvest.

Land Ownership: Public surface and minerals are managed by the Dillon Field Office, Bureau of Land Management.

Area Surveyed (acres): 103.4 acres

Area of Potential Effect (acres): 67.4 acres

Principal Field Investigator: Jason D. Strahl, Archaeologist

Organizational Affiliation: Bureau of Land Management,
Dillon Field Office
1005 Selway Drive
Dillon, Montana 59725

Date of File Search: September 15, 2007

Date(s) of Field Work: September 19, October 2 & 11, 2007

Site(s) Recorded in Project Area: 24BE2152

Previously Recorded Sites: none

Project Description

In an effort to improve forest, upland, and riparian health in the Centennial Watershed, the BLM Dillon Field Office is proposing a timber harvest of three timber units located in the southern

Gravelly Range. The timber harvest will involve impacting approximately 63 acres of timber and approximately 3.3 miles of existing and proposed new roads. To access and remove logs from the timber units, road improvements will need to be made on existing roads as well as construction of new roads. The harvest will involve using wheeled machinery within each timber unit.

Environmental Context

The timber units are located on the southern edge of the Gravelly Range on a north facing slope, draining into Long Creek and eventually the Red Rock River, at an approximate elevation of 7,400 to 7,600 feet. The area is comprised of three Douglas Fir stands surrounded by rolling sagebrush and grass steppe. Soils are a dark brown silt loam, deposited primarily through alluvial actions with the possibility of some colluvial deposition. Ground visibility within the timber units is approximately 30% to 40%. Ground visibility along roads is approximately 40% to 60%.

Existing Data and Literature Review

Materials consulted in the initial literature review included the prehistoric and historic cultural overviews for the Butte District (Deaver and Deaver 1990; Brown 1975; see also Ingram 1976), and the Montana State Historic Preservation Plans (Montana Fish and Game Commission 1975; Van West 1985). In addition, project and site files curated at the Bureau of Land Management, Dillon Resource Area were examined to determine the presence/absence of previous cultural resource inventories and previously recorded site locations.

Survey Methods

All timber units were surveyed using 30 meter transects oriented in an east/west direction, cross slope. All access roads were surveyed using a 15 meter wide zigzag transect along each side of road centerline. Special attention was paid to road cuts, rodent burrows and cattle disturbance.

Summary Description of Resources Encountered

During the course of the inventory, an historic cabin (24BE2152) was located within one of the proposed timber units. At this time 24BE2152 has not been evaluated.

Resource Significance (Determination of Eligibility)

Eligibility will be determined upon site evaluation.

Determination of Effect

Timber harvest activities located near 24BE2152 will be conducted in a manner to avoid any adverse impact to the present condition of the cabin. No trees will be removed in the immediate vicinity of the cabin location. No other historic properties were located or recorded during the

course of the inventory. Therefore, the timber harvest will have NO EFFECT to any significant cultural resources.

Conclusions and Recommendations

A Class III cultural resource inventory was conducted for the proposed N1 Timber Harvest and the entire existing and proposed road system. During the course of the inventory, an historic cabin (24BE2152) was identified and recorded within the proposed center timber unit. Timber harvest activities located near 24BE2152 will be conducted in a manner to avoid any adverse impact to the present condition of the cabin. No other historic properties were located or recorded during the course of the inventory. Therefore, the timber harvest will have NO EFFECT to any significant cultural resources. It is recommended that the timber harvest be granted in accordance with the BLM National Programmatic Agreement and implementing protocol.

References Cited

Brown, Kimberly

1975 *Historical Overview of the Dillon District*. Bureau of Land Management and the Western Interstate Commission for Higher Education (WICHE). Boulder, Colorado.

Schwab, Dave, Mike Durglo Sr., Joanne Bigcrane, and Mary Rogers (Confederated Salish and Kootenai Tribal Historic Preservation Department)

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Deaver, Sherri and Ken Deaver

1990 *An Archaeological Overview of Butte District Prehistory*. Bureau of Land Management, Montana State Office: Cultural Resource Series No. 2. Billings, Montana.

Ingram, Patricia M.

1976 *Historic Transportation Routes through Southwestern Montana*. Bureau of Land Management and the Western Interstate Commission for Higher Education (WICHE). Boulder, Colorado.

Montana Fish and Game Commission

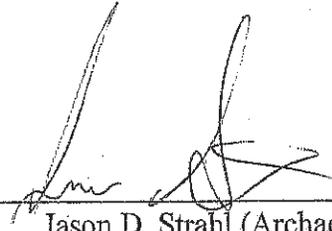
1975 *Montana Historic Preservation Plan, Vol. I, II, and III, Second ed.* Recreation and Parks Division, Montana Department of Fish and Game. Helena, Montana.

Van West, Carroll

1985 *The Resource Protection Planning Process for Montana: Historic Contexts*. Montana State Historic Preservation Office and Montana Historical Society. Helena, Montana.

Date of Report: 2/4/2008

Signature: _____

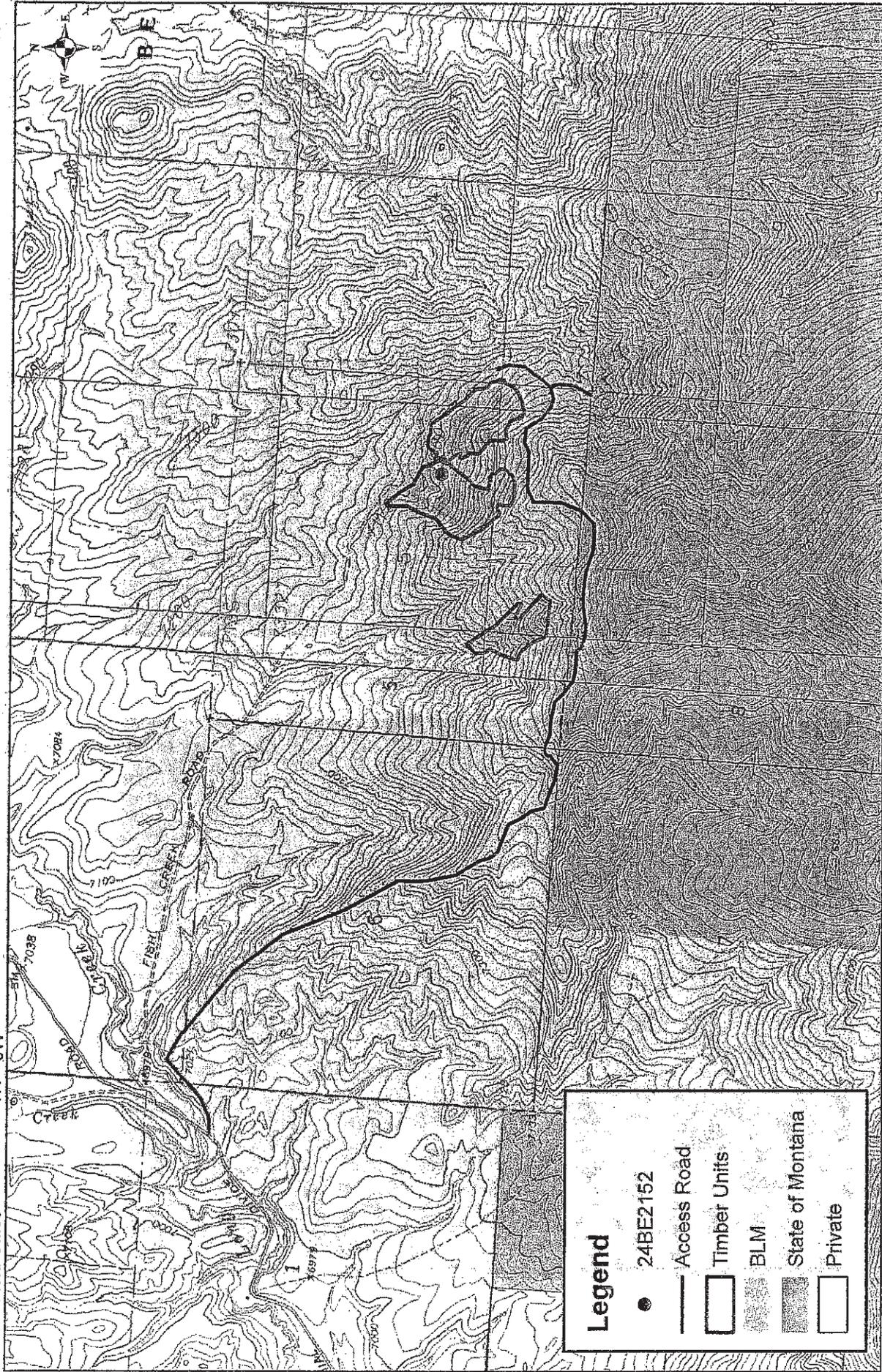
A handwritten signature in black ink, appearing to read 'Jason D. Strahl', written over a horizontal line.

Jason D. Strahl (Archaeologist)

Bureau of Land Management
Dillon Field Office

4W 3W

N1 Timber Harvest



12S
13S

12S
13S

Legend

- 24BE2152
- Access Road
- Timber Units
- ▨ BLM
- ▩ State of Montana
- Private

4W 3W

T13S, R3W Section 5
Metzel Creek, MT USGS 7.5' Topo



N1 Timber Harvest
07-MT-050-54



View of west timber unit looking north.



View of east timber unit looking west.