

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name: Miner Ditch Timber Sale
Proposed Implementation Date: August 1, 2006
Proponent: Department of Natural Resources and Conservation / Dillon Unit
Location: E1/2 Section 36, Township 5 South, Range 16 West
County: Beaverhead

I. TYPE AND PURPOSE OF ACTION

Commercial timber sale to harvest an estimated 275 MBF of lodgepole pine and Douglas-fir timber from approximately 35 acres of tractor ground. Purpose of action is to generate revenue for the school trust, improve forest health and productivity by the removal of overstocked and diseased timber, promote restoration of aspen and bring treated portions of stand closer to a semblance of historic conditions. (See Attachments A for vicinity and 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 in September 2003 by DNRC Supervisor Resource Management G. Frank, Fisheries Program Specialist J. Bower, Soil Scientist J. Collins, Bureau Chief P. Van Sickle and Forester C. Barone.

Individual scoping notices were sent in August 2003. (See Attachment H – List of scoping notices).

Publication of a Legal Notice in the Dillon Tribune on August 20 and 27, 2003.

Additional notices were sent in December 2005 to water right holders on the State parcel for comments on the proposed ditch crossing; and to DNRC and FWP specialists for the inclusion of an additional 12 harvest acres to the proposed project for aspen restoration.

Other contacts:

DNRC, Archaeologist, P. Rennie
Montana Natural Heritage Program
Montana Fisheries Information System
Johnson Brothers, Inc.
Lazy CA, Inc.

RECEIVED

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LEGISLATIVE ENVIRONMENTAL
POLICY OFFICE

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

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

A Beaverhead County burning permit would be required if slash burning is done.

3. ALTERNATIVES CONSIDERED:

Action Alternative: Harvest ~275 MBF of overstocked and diseased timber from an estimated 35 acres of State land, located in Section 36-T5S-R16W.

The Missouri River drainage, including tributaries to the Big Hole River, is classified as B-1 in the Montana Surface Water Quality Standards. The B-1 classification is for multiple use waters suitable for domestic use after conventional treatment, growth and propagation of cold-water fisheries, associated aquatic life and wildlife, agricultural, and industrial uses. Among other criteria for B-1 waters, no increases are allowed above naturally occurring concentrations of sediment, which will prove detrimental to fish or wildlife. Naturally occurring conditions or materials present from runoff on developed land where all reasonable land, soil, and water conservation practices have been applied. Reasonable practices include methods, measures, or practices that protect present and reasonably anticipated beneficial uses. The State has adopted Forestry Best Management Practices through its Nonpoint Source Management Plan as the principle means of controlling nonpoint source pollution from silvicultural activities. Downstream beneficial uses in the affected watershed include: irrigation, livestock watering, and cold-water fisheries. Miner Creek was removed for the State 303(d) list in 2002 because it was found to be fully supporting all beneficial uses. There are numerous existing water right for irrigation and livestock watering immediately downstream of the proposed project area.

Miner Creek (from headwaters to the confluence with the Big Hole River) was included on the 1996 and 1998 303(d) list because the aquatic life support and cold-water fisheries beneficial uses were thought to be only partially supported. The probable causes of impairment were listed as flow alteration, other habitat alteration and siltation. The probable sources of impairment included agriculture, irrigated crop production, rangeland, streambank modification /destabilization.

The estimated harvest area in the watershed is less than 2% of the total watershed area. The total estimated road miles in the watershed are eighteen miles. These levels are well below the levels of forest crown removal that are normally associated with increased water yields. Stream channel conditions on the State parcel were rated as "good" and considered relatively stable. Therefore, it is unlikely that there are measurable effects on stream flow regimes (water yield, magnitude, and duration of peak flows) due to vegetation manipulation in the Miner Creek.

A temporary crossing of a seasonally active irrigation ditch would be required to access the northeast one-half of the harvest unit. The crossing would be constructed from a log bundle and utilized during a period of time when the ditch is inactive (approximately September through April).

Harvest activities would occur on gentle to moderate slopes ranging from 5 to 20% with low erosion risk. No streams are located within one-half mile of the proposed harvest unit and road construction. A small wetland (~0.5 acre) is located in the southern portion of the proposed harvest unit and would be designated as an equipment restricted area. Timber harvest and road activities would implement all applicable forestry BMP's to avoid or minimize the risk of soil erosion and potential for sediment delivery. No direct, indirect, or cumulative impacts to water quality or the cold-water fishery in Miner Creek due to accelerated rates of sediment or nutrient delivery are expected to result from the proposed actions. Since, no streamside riparian timber harvests are proposed, no direct or indirect effects to stream temperatures or channel form and function are anticipated.

The proposed timber harvest and road construction are not expected to contribute to adverse cumulative watershed impacts due to modified stream flow regimes. The existing and proposed levels of harvest are well below the levels normally associated with detrimental increases in water yield, peak flow, or duration of peak flows. Subsequently, no direct, indirect, or cumulative impacts to water quality or beneficial uses are anticipated to result from bank destabilization and in-stream sedimentation. No direct, indirect, or cumulative impacts to water quality, cold-water fisheries, or other beneficial uses in Miner Creek or the Big Hole River are expected to result from the proposed actions.

(See Attachments C, D & E – Watershed and Fisheries Assessment; Checklist for Endangered, Threatened and Sensitive Species/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.

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 parcel is located on the east side of the Beaverhead Mountains along the forest/grassland interface. Slopes range from 5-20% with an elevation of 6800 feet. The State parcel has ~400 forested acres and was harvested approximately 20 years ago, removing 875 MBF from 129 acres. Presently a post and rail harvest is being conducted on 20 acres for 100 MBF to the west of the proposed project.

Lodgepole pine dominants as a seral species with Subalpine fir/Grouse Whortleberry (Abla/Vasc) as the dominant habitat type. The area lies along the drought limitations of the habitat type and consequently subalpine fir is sparsely represented. Douglas-fir is indicated as a climax species on the drier slopes with Douglas-fir/Pine Grass (Psme/Caru) as the habitat type. The irregular topography and hummocky features in the area are conducive for forming frost pockets that favor lodgepole pine as the seral species. Douglas-fir is quite often poorly formed and stunted in these areas but does grow well on the upland slopes and sites indicating Douglas-fir climax. Regeneration is minimal and understory vegetation is moderate with moderate coarse woody debris.

The proposed harvest area is single storied composed predominately of lodgepole pine with scattered Douglas-fir found in the southern tip of the unit, including a few old relic trees. Lodgepole pine is exhibiting poor to moderate growth due to age, overstocking and a moderate infestation of dwarf mistletoe. Harvest for this area would include a regeneration harvest of all lodgepole pine sawtimber and a modified selection/seed tree harvest for Douglas-fir sawtimber. Desirable Douglas-fir dominate/co-dominate trees would be left for seed source where available. Harvest is designed to reduce over stocking and suppression, fire hazard, and insect and disease.

The northeast edge of the harvest unit (~12 acres) is a mix of aspen and lodgepole pine encroachment. Harvest for this area would involve a regeneration harvest of all lodgepole pine sawtimber to reduce conifer encroachment and promote restoration of the aspen stand. Submerchantable conifer and aspen would not be protected during harvest operations to further reduce conifer encroachment and induce suckering of aspen.

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 represents 8.7% of the total forested acres within the State parcel. Harvesting an estimated 275 MBF of timber would alter the forest cover on approximately 35 acres. Harvest design is intended to maintain a semblance of historic conditions while promoting forest health and productivity, and aspen restoration through emulating mixed severity and stand replacing fires. Natural regeneration would be expected.

No rare plants or cover types have been noted by the Montana Natural Heritage Program or observed within the proposed project area.

The DNRC requires the washing of equipment, seeding of grass and monitoring of disturbed areas to minimize the potential of noxious weeds being introduced. There is low risk of direct, indirect, or cumulative impacts due to weeds.

(See Attachments B, E and F – Soils and Geology Assessment; Montana Natural Heritage Program; 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 big game, small mammals, raptors and songbirds potentially use this area. Miner Creek supports populations of arctic grayling and brook trout but no streams are located within one-half mile the proposed harvest unit and road construction.

The project area lies within the Sapphire Elk Management Unit. Elk security, bull elk vulnerability and potential reductions in hunter opportunity are concerns expressed by FWP in most hunting districts. Achieving this goal can be hampered when available cover at the landscape level is reduced appreciably through timber harvest activities, road management, or natural disturbances, such as wildfires.

Security cover is lightly limited in the proposed project area and no significant impacts to wildlife are anticipated due to the type of silvicultural prescription and the size of the proposed harvest unit. Entry through the main access route is closed to motorized vehicles, which would help minimize any potential increase in elk vulnerability.

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

(See Attachments C, D & E – Watershed and Fisheries Assessment; Checklist for Endangered, Threatened and Sensitive Species; Montana Natural Heritage Program/Montana Fisheries Information System)

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.

Miner Creek supports populations of arctic grayling (both resident and fluvial/adfluvial). Arctic Grayling are considered uncommon in Miner Creek and are currently a candidate species for listing under the Federal Endangered Species Act (ESA).

No threatened or endangered species have been documented within the proposed project area. Preferred habitat for grizzly bear, lynx and bald eagles is not present or marginal within the project area. Occasional use of the area from these species could potentially occur but is generally considered outside of their normal occupied habitat. The Battlefield and Moyer Wolf Packs reside in the vicinity of the project area. Individuals from these packs or transients from other packs could occasionally use portions of the project area, however, due to the size, nature and location of the proposed project, activities associated with this proposal are not expected to affect wolves or recovery efforts.

A plant species of concern, Lemhi Beardtongue, has been observed approximately one mile south of the proposed project area. No other sensitive species/species of special concern have been documented or observed within the proposed project area.

No direct, indirect, or cumulative impacts to water quality or the cold-water fishery in Miner Creek or the Big Hole River are expected to result from the proposed actions. Due to the size, season, duration and harvest method of the proposed project, minimal road construction and additional recommended mitigation measures, no impacts are expected to occur to any endangered, threatened or sensitive species.

(See Attachments C, D & E – Watershed and Fisheries Assessment; 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.

An inventory of cultural resources was done in 1987 within the proposed project area. No additional archaeological investigative work is recommended.

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 proposed project is visible to the surrounding populated area but visual impacts would be buffered due to the gentle topography of the area and harvest design.

It is unlikely that aesthetics would be impacted adversely.

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.

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

An EA was completed in July 1988 for the Miner Creek Timber Sale (Section 36-T5S-R16W) for the harvest of 872 MBF from 129 acres. An EA was completed in May 1996 for the Miner Creek Post & Rails Timber Permit (Section 36-T5S-R16W) for the harvest of post & rail from 2 acres. A Categorical Exclusion was completed in September 2005 for the Roberts Timber Permit (Section 36-T5S-R16W) for the harvest of 100 MBF of post and rail material from 20 acres.

A range evaluation was conducted in September 2003.

No cumulative impacts are expected.

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.

People are currently employed in the wood products industry. Due to the relatively small size of the timber sale program, there would 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.

People are currently paying taxes from the wood products industry in the region. Due to the relatively small size of the timber sale program, there would 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 would be no measurable cumulative impacts related to demand for government services due to the small size of the timber sale program, the short-term impacts to traffic and the small possibility of a few people temporarily relocating to the 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.

In March 2003, DNRC adopted the Administrative Rules for Forest Management ARM 36.11.401 through 36.11.450 (the "Rules"). This project is planned under the requirements of the Rules.

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 tract. The proposed project would not affect the existing access 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 would be no measurable cumulative impacts related to population and housing due to the relatively small size of the timber sale program, and the fact that people are already employed in this occupation in the region.

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 \$48,642.00(275 MBF of sawtimber @ \$176.87/MBF). This estimate is intended for comparison of alternatives, not as an absolute estimate of return.

Income from a grazing license of \$909.68/year for 137 AUM of use would continue with or without the harvest proposal.

EA Checklist Prepared By:	Name: Chuck Barone	Date: February 14, 2006
	Title: Dillon Unit Forester	

V. FINDING

25. ALTERNATIVE SELECTED:

After review, I have selected the proposed Action Alternative, to harvest approximately 275 MBF of overstocked and diseased timber from an estimated 35 acres of School Trust land and construct approximately .45 miles of temporary minimum standard road to access the harvest unit. I believe this alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area while promoting forest health and diversity, promoting the restoration and expansion of aspen stands, and generating revenue for the school trust from timber harvest.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

I conclude all identified potential impacts will be avoided or mitigated by the project size, short duration, timing, design, contract provisions, project administration, and BMP compliance, and no significant impacts will occur as a result of implementing the selected alternative.

MEASURES RECOMMENDED TO MITIGATE POTENTIAL IMPACTS:

- 1) Compliance with Forestry Best Management Practices (BMP's) and Streamside Management Zone (SMZ) laws. Protect all wet areas with marked equipment restriction zones (ERZ) as needed.
- 2) Limit equipment operations to periods when soils are relatively dry (<20%), frozen or snow covered to minimize soil compaction, rutting and vegetative disturbance. Control erosion by maintaining and installing adequate drainage on roads and skid trails.
- 3) Retain all fine litter as feasible and 5-10 tons/acre of large woody debris >3" diameter. Slash should 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.

- 4) 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. All new construction would be closed with slash and debris. Temporary ditch crossing using log bundle (wrapped in heavy plastic) would be installed when ditch is inactive. The crossing would be removed and the ditch restored prior to active water flow.
- 5) All road construction 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.
- 6) At sale closure, grass seed ditch crossing, roads, skid trails (where needed) and landings with an appropriate seed mixture.
- 7) 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.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS
 More Detailed EA
 No Further Analysis

EA Checklist Approved By:	Name: Richard Moore	Title: Dillon Unit Manager
Signature:	<i>Richard A. Moore</i>	
	Date:	February 15, 2006

ATTACHMENTS

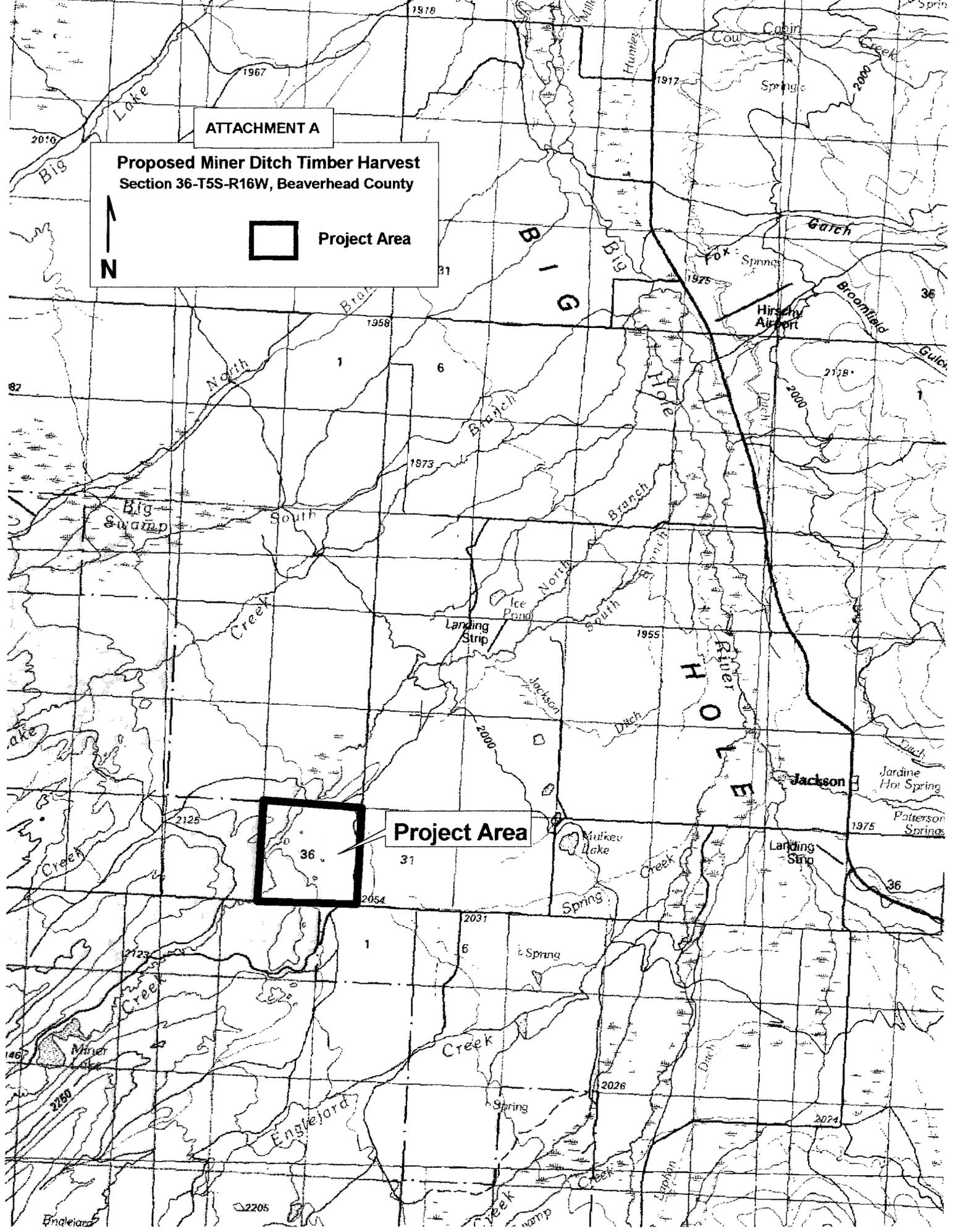
- A – Site Specific Map/Vicinity Map
- B – Soils and Geology Assessment
- C – Watershed and Fisheries Assessment
- D – Checklist for Endangered, Threatened and Sensitive Species
- E - Montana Natural Heritage Program/ Montana Fisheries Information System
- F – Vegetative Analysis/Stand Prescription
- H – List of Individual Scoping Notices

ATTACHMENT A

**Proposed Miner Ditch Timber Harvest
Section 36-T5S-R16W, Beaverhead County**



Project Area

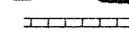


ATTACHMENT A

Proposed Miner Ditch Timber Harvest
Sec. 36-T5S-R16W, Beaverhead County

2



-  County Road
-  Access Road
-  New Construction
-  SMZ
-  Harvest Unit
-  Ditch

PRIVATE

PRIVATE

STATE

PRIVATE

FS

36

R 16 W

R 15 W

FS

BLM

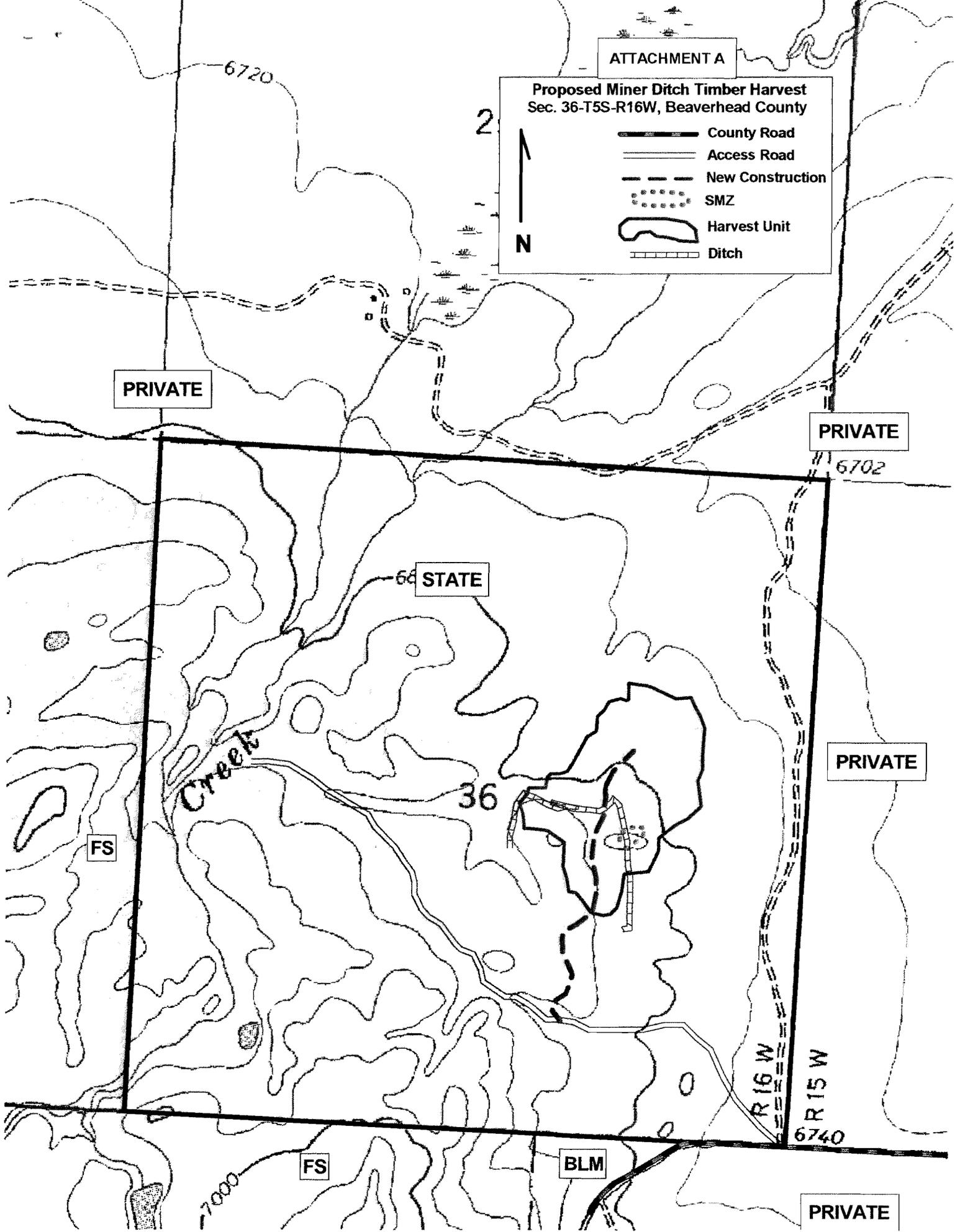
PRIVATE

6720

6702

7000

6740



ATTACHMENT B

SOIL AND GEOLOGY ASSESSMENT PROPOSED MINER DITCH TIMBER SALE SECTION 36-T5S-R16W, BEAVERHEAD COUNTY

JEFF COLLINS, Soil Scientist
January 11, 2005

Existing Conditions: Geology & Soils

The site was previously reviewed for timber management field review and EA comments are noted in memo of September 18, 1987. The Miner Ditch sale area is located on a gently rolling terrain of glacial outwash and alluvial fan deposits derived from Ravalli quartzite. No unstable or unique geology occurs on the project area. Topsoils are typically moderately deep (about 6 -8") sandy loams and silt loams over deep cobbly sandy loams. On forested and range sites, the small outwash hummocks have sandy loam surfaces (with more surface cobbles) and are droughty in nature. On forested sites with more flat and concave terrain, topsoils are deeper mixed sands and silt loams from volcanic ash (Crater Lake) that are slightly higher productivity sites. Soils in the proposed harvest area are very well drained and tend to be droughty with a long dry season of use. Small potholes have deeper silty soils which can be mucky when wet and should be avoided when skidding.

These well-drained gravelly soils on gentle slopes have low erosion risk, but can be erosive along waterways where disturbed. We reviewed the harvest area from 1989 and found minimal soil effects and no existing erosion problems. The harvest units have regenerated to lodgepole pine and some sage.

Harvest Effects of the Proposed Action

Primary soil concerns are potential rutting, and excessive surface disturbance with harvest operations and site preparation. To maintain soil productivity, and promote conifer regeneration, BMP's and the following mitigation measures would be implemented to minimize the area and degree of soil effects associated with harvest operations.

Mitigations include skid trail planning, limiting season of use to dry or frozen conditions, installing drainage where needed and retaining woody debris for nutrients and protection of seedlings. The proposed harvest would not have any additive effect on previous harvest units and there is low risk of cumulative effects.

The area is a cool site subject to frost and the proposed harvest is expected to encourage lodgepole regeneration. Leaving slash can provide shade to enhance survival of seedlings and provide protection from animal use.

Recommended harvest mitigation measures for the proposed project:

Implement Forestry BMP's as the minimum standard for all operations with the proposed timber sale. The contractor and sale administrator should agree to a general skidding plan prior to equipment operations. Control the area and degree of disturbance to levels desired for silvicultural goals.

Use minimum SMZ width as required by law and noted in hydrology report. No high erosion risk soil types were noted in the proposed harvest units for location of SMZ or RMZ boundaries. Protect all wet areas with marked equipment restriction zones (ERZ) as needed.

Limit equipment operations to periods when soils are relatively dry, (less than 20%), frozen, or snow covered, to minimize soil compaction and rutting, and maintain drainage features. Check soil moisture conditions prior to equipment start-up.

Down Woody Material: Harvest operations should retain five to ten tons per acre of woody material larger than 3 inches diameter to be left scattered throughout regeneration the sale units. Slash should be left in the harvest units where feasible, and distributed on skid trails upon completion of use, for nutrient cycling

and to provide shade and protection for seedlings

Recommended road mitigation measures:

Install adequate road drainage such as drain-dips to control erosion concurrent with harvest activities and road construction and reconditioning. Provide effective sediment filtration along drainage features near crossing sites. On this gentle ground, slash distributed on trails or temporary roads would be adequate to control erosion and prevent unauthorized use.

Installation of a temporary ditch crossing can be effectively built with native fill by blading in material from adjacent areas, but the cobbly subsoils will form a rough crossing.

Weed Management: No noxious weeds were observed. The following prevention measures would be implemented to limit the possible introduction of noxious weeds and into the project area.

All road construction and harvest equipment will be cleaned of plant parts, mud and weed seed to prevent the introduction of noxious weeds. Equipment will be subject to inspection by forest officer prior to moving on site.

All newly disturbed soils on road cuts and fills will be promptly reseeded to site adapted grasses to reduce noxious weed encroachment and stabilize roads from erosion.

DNRC would review the proposed harvest area for weeds following the sale. If any noxious weeds are identified, a weed management plan would be developed and implemented with the lessee.

RECOMMENDED SEED MIX for BROADCAST APPLICATION

"Revenue or Primar" Slender Wheatgrass	6#
"Durar or Whitmar" hard Fescue	4#
Pubescent Wheatgrass	5#
"Bromar" Mountain Brome	3#
"Ruebens" Canada Bluegrass	3#
TOTAL LBS./ACRE Corrected Pure Live Seed	21#

Recommended Checklist format for Soils and Noxious Weeds

II. IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES N = Not present or No Impact will occur. Y = Impacts may occur (explain below)
4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are fragile, compactable or unstable soils present? Are there unusual geologic features? Are there special reclamation considerations? Are cumulative impacts likely to occur as a result of this proposed action?	[Y] Geology is very well-drained gravelly outwash and alluvium. No unstable slopes or unique geology features are present. Erosion risk is low on these 0-15% slopes. Planned ground skidding operations should have moderate to low direct, in-direct and cumulative impacts based on implementing BMP's and mitigation measures. Mitigations include season of use limits, general skidding plans, retaining woody debris for nutrients and seedling protection and prompt revegetation of disturbed sites on roads to protect soil resources.
7. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present? Are cumulative impacts likely to occur as a result of this proposed action?	[N] Vegetation Analysis, Stand conditions, Old growth analysis etc. RARE PLANTS AND WEEDS PORTION No rare plants have been identified in the proposed project area (Reference Project File, Montana Natural Heritage Program letter). To prevent introduction of new weeds, off-road equipment will be cleaned and inspected prior to entry into harvest areas. Newly disturbed roads and landing will be seeded to grass. There is low risk of direct or cumulative impacts to weeds

ATTACHMENT C
WATERSHED AND FISHERIES ASSESSMENT
PROPOSED MINER DITCH TIMBER SALE

Gary Frank, Resource Mgmt Section Supervisor, FMB

June 30, 2005

AFFECTED WATERSHEDS – EXISTING CONDITIONS

The proposed Miner Ditch Timber Sale is located on a single parcel of School Trust Lands in Section 36, Township 5 South, and Range 16 West. This parcel is located in the Miner Creek watershed, which is tributary to the Big Hole River in the Missouri River Basin. The mainstem of Miner Creek flows through the west half of the State parcel. However, the proposed project area including the proposed harvest unit, existing access road and proposed new road construction are located in the east half of the section and at least ½ mile from Miner Creek itself.

An active irrigation ditch that is used during the summer growing season to irrigate hayfields and pastures on adjacent private land bisects the proposed harvest area. The ditch diverts water from Miner Creek; however, there is no direct return flow to Miner Creek or other natural bodies of water. The existing access road on the State parcel includes a culvert crossing of this irrigation ditch. There are no other natural or manmade drainage feature or bodies of water within the proposed project area.

The Missouri River drainage, including tributaries to the Big Hole River, is classified as B-1 in the Montana Surface Water Quality Standards. The B-1 classification is for multiple use waters suitable for domestic use after conventional treatment, growth and propagation of cold-water fisheries, associated aquatic life and wildlife, agricultural, and industrial uses. Among other criteria for B-1 waters, no increases are allowed above naturally occurring concentrations of sediment, which would prove detrimental to fish or wildlife. Naturally occurring includes conditions or materials present from runoff on developed land where all reasonable land, soil, and water conservation practices have been applied. Reasonable practices include methods, measures, or practices that protect present and reasonably anticipated beneficial uses. The State has adopted Forestry Best Management Practices through its Nonpoint Source Management Plan as the principle means of controlling nonpoint source pollution from silvicultural activities.

Downstream beneficial uses in the affected watershed include: irrigation, livestock watering, and cold-water fisheries. There are numerous existing water right for irrigation and livestock watering immediately downstream of the proposed project area.

Miner Creek supports populations of arctic grayling (both resident and fluvial/adfluvial) and brook trout. Brook trout are abundant through out the drainage. Arctic Grayling are considered uncommon in Miner Creek (FWP 2005) and are currently a candidate species for listing under the Federal Endangered Species Act (ESA). Candidate species are those species that the U.S. Fish and Wildlife Service has sufficient information on their biological status and threats to propose them as endangered or threatened under ESA, but for which the development of a proposed listing regulation is precluded by other higher priority listing activities.

Miner Creek was included on the 1996 and 1998 versions of the State of Montana 303(d) list of impaired bodies of water in need of TMDL development. The 303(d) list are compiled by the Montana Department of Environmental Quality (DEQ) as required by the Montana Water Quality Act (MCA 75-701-705) and Section 303(d) of the Federal Clean Water Act, and the Environment Protection Agency (EPA) Water Quality Planning and Management Regulations (40 CFR, Part 130). Under these laws, the State is required to identify water bodies that do not fully meet water quality standards; or where

beneficial uses are threatened or impaired. Miner Creek was removed for the State 303(d) list in 2002 because it was found to be fully supporting all beneficial uses.

Miner Creek (from headwaters to the confluence with the Big Hole River) was included on the 1996 and 1998 303(d) list because the aquatic life support and cold-water fisheries beneficial uses were thought to be only partially supported. The probable causes of impairment were listed as flow alteration, other habitat alteration and siltation. The probable sources of impairment included agriculture, irrigated crop production, rangeland, streambank modification /destabilization.

The existing low standard road used to access the proposed harvest unit would require some additional surface drainage to fully meet BMPs however, there is currently no risk of this segment of road contributing direct sediment delivery to Miner Creek.

Cumulative Watershed Effects

Based on aerial photo analysis, there appears to be a low level of road density, as well as past timber harvests, within the Miner Creek watershed. The estimated harvest area in the watershed is less than 2% of the total watershed area. The total estimated road miles in the watershed is 18 miles. These levels are well below the levels of forest crown removal that are normally associated with increased water yields. Stream channel conditions on the State parcel were rated as "good" and considered relatively stable. Therefore, it is unlikely that there are measurable effects on stream flow regimes (water yield, magnitude, and duration of peak flows) due to vegetation manipulation in the Miner Creek

ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

The proposed timber sale would result in approximately 275 MBF of sawtimber being removed from a single 35-acre harvest unit and approximately 0.4 miles of new road construction. Harvest activities would occur on gentle to moderate slopes ranging from 5 to 20% with low erosion risk. No streams are located within one-half mile of the proposed harvest unit and road construction. Timber harvest and road activities would implement all applicable forestry BMPs to avoid or minimize the risk of soil erosion and potential for sediment delivery. No direct, indirect, or cumulative impacts to water quality or the cold-water fishery in Miner Creek due to accelerated rates of sediment or nutrient delivery are expected to result from the proposed actions. Since, no streamside riparian timber harvests are proposed, no direct or indirect effects to stream temperatures or channel form and function are anticipated.

A temporary crossing of a seasonally active irrigation ditch (approximately 4 foot wide by 1.5-foot deep) would be required to access the northeast ½ of the harvest unit. As currently planned, the crossing would be utilized during a period of time when the ditch is inactive. During field review on September 15, 2003 it was apparent that the head gate had just recently been closed. I recommend that the ditch operators be contacted to verify the irrigation and ditch use schedule to determine the feasibility of the following ditch crossing design options (see enclosed summary of water rights):

A dry ditch crossing could be constructed from either a log bundle, excavated drive-through or earth fill. The log bundle offers the advantage of the lesser amount of potential disturbance to the ditch and therefore poses the least amount of potential rehabilitation needs. Use of a heavy plastic lining under the logs is recommended to prevent embedding of the logs and to facilitate removal of logs and incidental fill material. A drive through crossing could be constructed by excavating the sides of the ditch and ramping down across the ditch bottom. However, reconstruction of the ditch banks and reshaping of the ditch would have to be completed after hauling activities and prior to use the next irrigation season. Restoration of the ditch to its original configuration might prove difficult under winter conditions. An earth fill crossing would be easy to construct, but removal of fill material and shaping of the ditch may also be difficult under winter conditions.

Under any of these three dry crossing options, the material used to construct the temporary crossing would be removed and the ditch would be reshaped and restored to its original configuration following hauling activities and before use of the ditch for irrigation. Therefore, no adverse effects to irrigation beneficial uses are expected under either option.

If a wet crossing is used during the active irrigation season, it would be constructed by installing either a temporary culvert sized to match the existing culvert installation located approximately 0.3 miles downstream (approximately 30" squash cmp); or by constructing a log stringer bridge with native materials. Neither of these two options is expected to have adverse effects to irrigation beneficial uses of the water flowing through the ditch.

The ditch flowing through the proposed harvest area does not have return flow to Miner Creek or the Big Hole River. Therefore, no adverse effects to downstream water quality or cold-water fisheries are expected to occur under any of the dry or wet ditch crossing options.

The proposed timber harvest and road construction are not expected to contribute to adverse cumulative watershed impacts due to modified stream flow regimes. The existing and proposed levels of harvest are well below the levels normally associated with detrimental increases in water yield, peak flow, or duration of peak flows. Subsequently, no direct, indirect, or cumulative impacts to water quality or beneficial uses are anticipated to result from bank destabilization and in-stream sedimentation. No direct, indirect, or cumulative impacts to water quality, cold-water fisheries, or other beneficial uses in Miner Creek or the Big Hole River are expected to result from the proposed actions.

ATTACHMENT D

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

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)
Bald Eagle (<i>Haliaeetus leucocephalus</i>) Habitat: late-successional forest <1 mile from open water	[N] Bald Eagles have not been documented within the quarter latilong (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). No known nesting habitat occurs on, or within one mile of the proposed project area, and the project area likely occurs outside of any Bald Eagle nesting home range. No direct, indirect or cumulative effects to Bald Eagles associated with this project are anticipated.
Gray Wolf (<i>Canis lupus</i>) Habitat: ample big game pops., security from human activity	[N] The proposed project area falls within the Central Idaho Nonessential Experimental Area for gray wolves. The nearest packs are the Moyer pack to the west in Idaho and the Battlefield pack to the north in Montana. Individuals from these packs or transients from other packs could occasionally use portions of the project area, however, due to the size, nature 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 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.
Grizzly Bear (<i>Ursus arctos</i>) Habitat: recovery areas, security from human activity	[N] The proposed project area lies outside of any grizzly bear recovery area. The nearest recovery area is the Yellowstone Grizzly Bear Recovery Zone (USFWS 1993) situated 100 miles southeast of the project area. Grizzly bear use of the Beaverhead Mountains may occur, however, the project area is currently considered outside of occupied habitat (Interagency Occupied Habitat Map, September 2002). Riparian habitats preferred by bears may occur in the project area along Miner Creek but the creek supports relatively low levels of hiding cover, and human access levels are presently moderate due to public access. New road construction would be temporary and constructed to low standard. The potential for any measurable increases in bear-human conflicts following the project activities are expected to be negligible. Adverse direct, indirect and cumulative impacts to bears as a result of this project are not expected.

<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 fringes of preferred lynx habitat. Habitats high in coarse woody debris that are preferred for denning and large acreages (>50 acres) of dense conifer regeneration at high elevations that are preferred for foraging are not prevalent within the proposed project area. Lynx habitat is marginal within the proposed project area due to the 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 minimal.</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>Flammulated Owl (<i>Otus flammeolus</i>) Habitat: late-successional ponderosa pine and Doug.-fir forest</p>	<p>[N] Flammulated owls have not been documented within the quarter latilong (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). The parcel involved in the proposed project maintains an elevation of about 6800 feet and mature Douglas-fir/ponderosa pine cover types, which are preferred habitat for flammulated owls, are not characteristic of this area. Direct, indirect and cumulative effects to Flammulated Owls would not be expected to occur under the alternatives considered.</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 (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). Stands found within the project area are not presently experiencing substantial insect activity, and no recent burns (<5 years old) have occurred within the State tracts or adjoining sections. Thus, foraging and nesting opportunities are presently limited. No direct, indirect or cumulative effects to black-backed woodpeckers would be expected to occur as a result of this project.</p>
<p>Pileated Woodpecker (<i>Dryocopus pileatus</i>) Habitat: late-successional ponderosa pine and larch-fir forest</p>	<p>[N] Pileated woodpeckers have not been documented within the quarter latilong (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). The project area is poorly suited for use by pileated woodpeckers. 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.</p>
<p>Northern Bog Lemming (<i>Synaptomys borealis</i>) Habitat: sphagnum meadows, bogs, fens with thick moss mats</p>	<p>[N] No sphagnum meadows or bogs occur in the proposed project area. No impacts to bog lemmings would be expected to occur as a result of this project.</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 within the quarter latilong (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). 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>Peregrine Falcon (<i>Falco peregrinus</i>) Habitat: cliff features near open foraging areas and/or wetlands</p>	<p>[N] Peregrine Falcons have not been documented within the quarter latilong (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). No cliff features suitable for use by nesting peregrine falcons occur within 1 mile of the project area. No direct, indirect or cumulative effects associated with this project are anticipated.</p>
<p>Mountain Plover (<i>Charadrius montanus</i>) Habitat: short-grass prairie, alkaline flats, prairie dog towns</p>	<p>[N] Mountain Plover have not been documented within the quarter latilong (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). No short-grass 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.</p>
<p>Townsend's Big-Eared Bat (<i>Plecotus townsendii</i>) Habitat: caves, caverns, old mines</p>	<p>[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.</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>Sage Grouse (<i>Centrocercus urophasianus</i>) Habitat: sagebrush semi-desert</p>	<p>[N] Sage grouse have not been documented in the quarter latilong (L36C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). However, sagebrush semi-desert habitats suitable for use by sage grouse do occur within one mile of the project area. Impacts to sage grouse are not anticipated.</p>

*Skaar, P.D. 1996. Montana bird distribution, fifth edition. Mont. Nat. Her. Prog. Special publ. No. 3, March, 129pp.



Natural Resource Information System
Montana State Library
PO Box 201800
Helena, MT 59620-1800
(406) 444-3000 mtnhp@state.mt.us

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

Thymallus arcticus montanus

Element Occurrence Map Label: 3737

Common Name: Montana Arctic Grayling

Species of Concern (Y) / Potential Concern (W): Y

Element Subnational ID: 11509

Description: Vertebrate Animal

EO Number: 4

Natural Heritage Ranks:

Federal Agency Status:

State: S1

U.S. Fish & Wildlife Service: C

Global: G5T1Q

U.S. Forest Service:

U.S. Bureau of Land Management: SPECIAL STATUS

Survey Site: BIG HOLE RIVER DRAINAGE

Survey Date:

First Observation Date: 1977

Last Observation Date: 1999

Acreage: 8,855

Min Elevation Feet: 4,600

Max Elevation Feet: 7,300

EO Data

The only entirely fluvial population in the lower 48 states. Most adults spawn in tributaries and winter in the main stem, especially below Wisdom. Numbers declined significantly since studies began - may have stabilized in late 1990s. The boundaries for this occurrence encompass all known occupied grayling habitat in the Big Hole River drainage. In the main stem, highest densities occur from Jackson to Dickie Bridge; grayling are rare above Jackson and below Divide. The most important tributaries are the North Fork and Swamp, Steele and Deep Creeks.

General Comment

Boundaries on tributaries approximate. Some fish also use various channels and ditches in the upper valley, above the North Fork.

General Description

Includes the main stem from Governor Creek to Glen plus the following tributaries: Governor Creek, Miner Creek, Big Lake Creek, Rock Creek, Swamp Creek, Steele Creek, Francis Creek, 'Sandhollow' Creek, North Fork (& possibly parts of Johnson & Mussigbrod Creeks), Doolittle Creek, Pintler Creek, Laramche Creek, Fishtrap Creek and Deep Creek.



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Species of Concern Data Report

Thursday, August 25, 2005

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

Lynx canadensis

Element Occurrence Map Label: 4303

Common Name: Lynx

Species of Concern (Y) / Potential Concern (W): Y

Element Subnational ID: 13134

Description: Vertebrate Animal

EO Number: 450

Natural Heritage Ranks:

State: S3

Global: G5

Federal Agency Status:

U.S. Fish & Wildlife Service: LT

U.S. Forest Service: THREATENED

U.S. Bureau of Land Management: SPECIAL STATUS

Survey Site:

Survey Date:

First Observation Date:

Last Observation Date:

Acreage: 22,494,298

Min Elevation Feet: 1,870

Max Elevation Feet: 11,187

EO Data

General Comment

General Description



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 (406) 444-3006 mtnhp@state.mt.us

Species of Concern Data Report

Thursday, August 25, 2005

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

Penstemon lemhiensis

Element Occurrence Map Label: 1597

Common Name: Lemhi Beardtongue

Species of Concern (Y) / Potential Concern (W): Y

Element Subnational ID: 12440

Description: Vascular Plant

EO Number: 23

Natural Heritage Ranks:

State: S2

Global: G3

Federal Agency Status:

U.S. Fish & Wildlife Service:

U.S. Forest Service: SENSITIVE

U.S. Bureau of Land Management: SENSITIVE

Survey Site: Miner Creek

Survey Date: 1989-06-30

First Observation Date: 1989

Last Observation Date: 1989-06-30

Acreage: 8

Min Elevation Feet: 7,029

Max Elevation Feet: 7,080

EO Data

UNCOMMON, 17 PLANTS IN 1989.

General Comment

General Description

SAGEBRUSH GRASSLAND WITH SPERGULA ARVENSIS, ERIOGONUM UMBELLATUM, CAREX FILIFOLIA, LUPINUS SERICEUS.

Montana Species of Concern Miner Ditch

Species of Concern

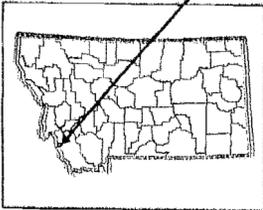
- Vascular Plant
- Nonvascular Plant
- Other Botanical
- Vertebrate Animal
- Invertebrate Animal
- Other Zoological
- Animal Inferred Extant

SPECIES OF CONCERN: A polygon feature representing only what is known from direct observation with a defined level of certainty regarding the spatial location of the feature.

INFERRED EXTENT: Areas that can be inferred to be probable occupied habitat based on the spatial location of the direct observation of a species and general information available for the foraging area and home range size of the species.

Land Management

- US Bureau of Land Management
- US Bureau of Reclamation
- US Fish and Wildlife Service
- National Park Service
- US Forest Service
- Other USDA
- Army Corps of Engineers
- Other Department of Defense
- Undifferentiated state
- DNRC (state trust lands)
- Montana Fish, Wildlife & Parks
- University Institutions, MDT
- DNRC (water project lands)
- Local Government
- Bureau of Indian Affairs Trust
- Tribal Lands
- Plum Creek
- Private Land Trusts



Not all legend items may occur on the map.

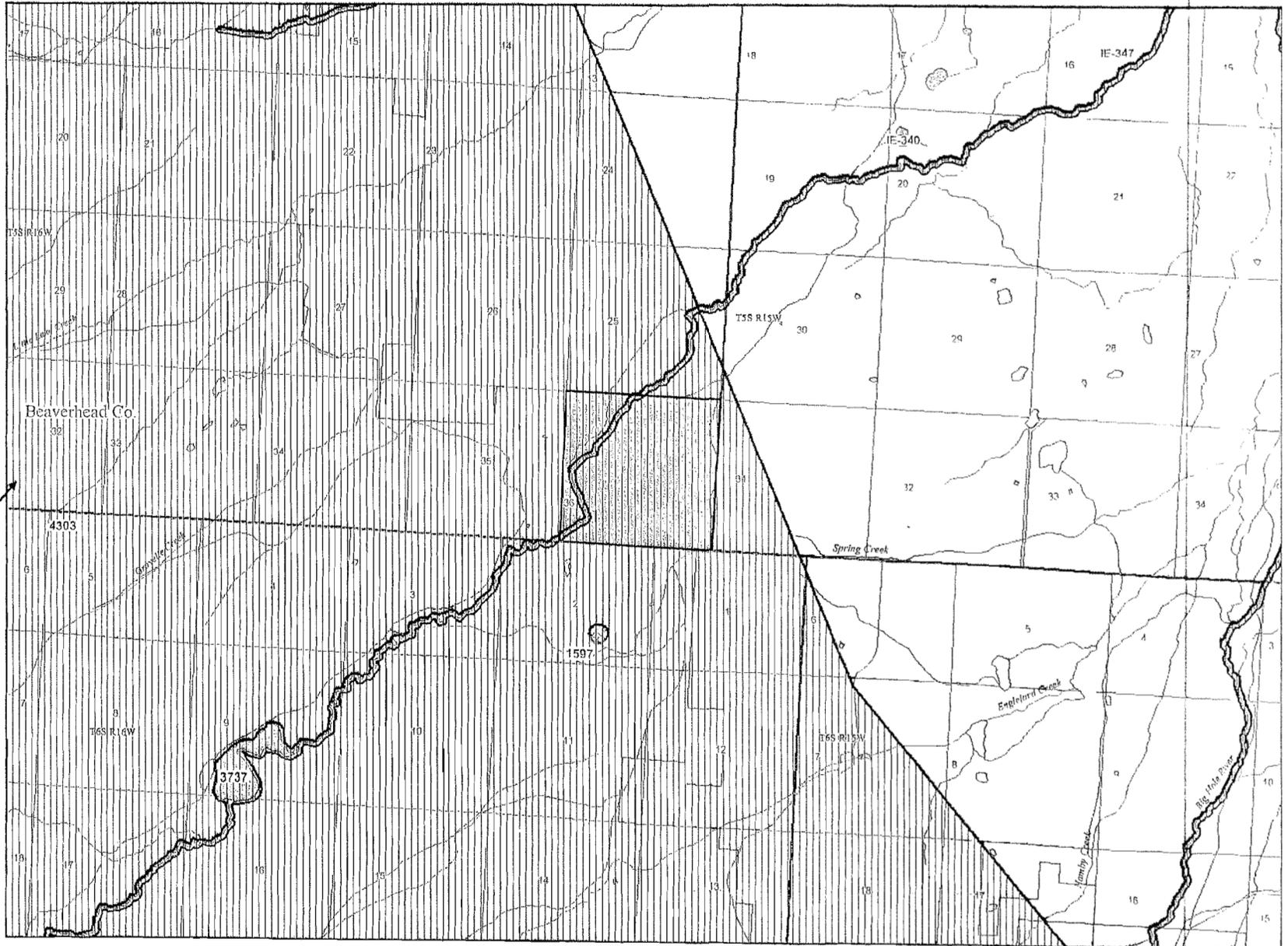
Features shown on this map do not imply public access to any lands.

This map displays management status, which may vary from ownership.

Refer to accompanying documentation for full explanation of map features.



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Map Document: (K:\Requests\06\DNRC\06dnrc0033\06dnrc0033.mxd) 6/25/2005





Report 1 of 1
Select Form

Map Waterbody

Miner Creek Tributary Of: Big Hole River

Total Length (Mi): 20.1

Report is based on River Miles(rm): (0.0 to 20.1)

View list of tributaries to the Miner Creek and their river miles

Hydrologic Units:

10020004 Big Hole,

Counties:

Beaverhead,

FWP Management

Waterbody Location	Region/Fish District	Management
From (rm 0.0) to (rm 20.1)	3 / Central	Trout Water

Fish Species Present

Species	Abundance	Water Use	Data Quality
Arctic Grayling			
From (rm 0.0) to (rm 19.9)	Rare	Both resident and Fluvial/Adfluvial populations	Extrapolated based on surveys
Brook Trout			
From (rm 0.0) to (rm 19.9)	Abundant	Year-round resident	Extrapolated based on surveys
Burbot			
From (rm 0.0) to (rm 19.9)	Rare	Year-round resident	Extrapolated based on surveys
Longnose Dace			
From (rm 0.0) to (rm 19.9)	Common	Year-round resident	Extrapolated based on surveys
Mottled Sculpin			
From (rm 0.0) to (rm 19.9)	Unknown	Year-round resident	Extrapolated based on surveys
Mountain Whitefish			
From (rm 0.0) to (rm 19.9)	Unknown	Year-round resident	Extrapolated based on surveys

Population Trend Data

From (rm 10.1) to (rm 10.2) Section Name: FROM BRIDGE UPSTREAM

Date: 1/1/1901 Collector: Unknown,

Species	Method	Length-(Min-Max(In))	DQR	Total	Units
Brook Trout	Total number captured or presence only	2.8-8.6	Medium quality	28	per 1000 ft.

Date: 7/30/1992

Collector: Cowley, Pat

Species	Method	Length--(Min-Max(In))	DQR	Total	Units
Brook Trout	Two pass	2-6.6	Medium quality	17	no estimate, counts only

Genetics

Genetic sampling not collected on this stream.

Angling Use - Days Per Year

From (rm 0.0) to (rm 19.9)

Year	Total			Resident			Non Resident			Ranking	
	Press.	s.d.	Trips	Press.	s.d.	Trips	Press.	s.d.	Trips	State	Region
2003	122	122	3	122	122	3	0	0	0	881	198
2001	122	91	3	122	91	3	0	0	0	852	181
1999	340	266	8	340	266	8	0	0	0	544	115
1997	135	135	4	0	0	0	135	135	4	941	202
1995	81	81	2	81	81	2	0	0	0	1195	252
1993	319	147	7	251	130	6	68	68	1	533	107
1991	121	61	4	72	51	2	49	35	2	926	217
1989	36	36	1	0	0	0	36	36	1	1751	418
1985	274	274	4	0	0	0	274	274	4	731	168
1984	1825	1742	5	1740	1740	4	85	85	1	177	39
1983	273	193	4	0	0	0	273	193	4	722	141
1982	1090	952	8	1090	952	8	0	0	0	337	76

Angling Use Data Source:

Data provided by a biannual Statewide Angling Use Survey conducted via mail by Montana Fish, Wildlife and Parks Information Services Unit in Bozeman.

Fish Stocking Since 1990

No Stocking Data Available

Fisheries Resource Values

From (rm 0.0) to (rm 19.9)	Habitat	Sport	Final Value
	Class	Class	
From (rm 0.0) to (rm 19.9)	1	4	Outstanding

Fisheries Classification Data Source:

A complex series of ratings and points were assigned to various MFISH data fields and used to determine the Sport Fisheries Values and the Species and Habitat Value for all surveyed streams in Montana. The final resource was determined as the higher of the two values.

Protected Designation

No Protected Data Available

FWP Dewatering Concern Area

Stream not considered dewatered by MFWP

FWP Instream Flow Protection/Quantification

From (rm 0.0) to (rm 19.9) **MOUTH to HEADWATERS** Reservation Type: **Water Reservation Granted**

Begin	End	Flow (CFS)	Priority Date
01/01	12/31	9	7/1/1985

Instream Flow Protection Data Source:

Instream flows rights and reservations provided by Murphy Rights (passed 1969, Section 89-801 (2), RCM 1947) and Montana Water Use Act (passed 1973, Section 85-2-316, MCA).

Stream Channel Conditions

From (rm 0.0) to (rm 19.9)

Bank Vegetation: Conifer tree forms	Riparian Vegetation: Grass/herbaceous forms
SubSurface Cover: N/A	Gradient: 0
Sinuosity: N/A	Side Channels: Low
Data Rating: Low - judgement only	Rosgen Class: N/A
Pool Ratio: N/A	Run Ratio: N/A
Riffle Ratio: N/A	Pocket Ratio: N/A

Restoration

Restoration Projects Not Found On Stream.

References

- Bailey, Jack E. ,Montana Fish and Game Department, 1961
- Heaton, John R ,Montana Fish and Game Department, 1960
- Kaya, Calvin M. ,Montana Dept. of Fish, Wildlife and Parks, 1990
- Wells, Jerry D., And Janet Decker-hess ,Montana Dept. of Fish, Wildlife and Parks, 1981
- Wells, Jerry D., And Janet Decker-hess ,Montana Dept. of Fish, Wildlife and Parks, 1981



Report 1 of 1
Select Form

Map Waterbody

Englejard Creek Tributary Of: Big Hole River

Total Length (Mi): 11.4

Report is based on River Miles(rm): (0.0 to 11.4)

View list of tributaries to the Englejard Creek and their river miles

Hydrologic Units:

10020004 Big Hole,

Counties:

Beaverhead,

FWP Management

Waterbody Location	Region/Fish District	Management
From (rm 0.0) to (rm 11.4)	3 / Central	Trout Water

Fish Species Present

Species	Abundance	Water Use	Data Quality
Brook Trout			
From (rm 0.7) to (rm 11.4)	Rare	Year-round resident	Extrapolated based on surveys

Population Trend Data

From (rm 5.7) to (rm 5.8)

Date: 8/1/1994 Collector: Brammer, Jim

Species	Method	Length-(Min-Max(In))	DQR	Total	Units
Brook Trout	One pass	3.4-10.5	Good quality	11	no estimate, counts only

Genetics

Genetic sampling not collected on this stream.

Angling Use - Days Per Year

From (rm 0.0) to (rm 11.4)

Year	Total			Resident			Non Resident			Ranking	
	Press.	s.d.	Trips	Press.	s.d.	Trips	Press.	s.d.	Trips	State	Region
1993	40	40	1	40	40	1	0	0	0	1493	354

Angling Use Data Source:

Data provided by a biannual Statewide Angling Use Survey conducted via mail by Montana Fish, Wildlife and Parks Information Services Unit in Bozeman.

Fish Stocking Since 1990

No Stocking Data Available

Fisheries Resource Values

	Habitat Class	Sport Class	Final Value
From (rm 0.0) to (rm 0.7)	6	5	Limited
From (rm 0.7) to (rm 11.4)	4	4	Moderate

Fisheries Classification Data Source:

A complex series of ratings and points were assigned to various MFISH data fields and used to determine the Sport Fisheries Values and the Species and Habitat Value for all surveyed streams in Montana. The final resource was determined as the higher of the two values.

Protected Designation

No Protected Data Available

FWP Dewatering Concern Area

Stream not considered dewatered by MFWP

FWP Instream Flow Protection/Quantification

Instream Flows not determined.

Stream Channel Conditions

No Stream Channel Data Available

Restoration

Restoration Projects Not Found On Stream.

References

No References Available

Report 1 of 1

ATTACHMENT F

Vegetative Analysis/Stand Prescription Miner Ditch Timber Sale

The State parcel is located on the east side of the Beaverhead Mountains along the forest/grassland interface. Slopes range from 5-20% with an elevation of 6800 feet. The State parcel has ~400 forested acres and was harvested approximately 20 years ago, removing 875 MBF from 129 acres. These harvested acres have regenerated with 4-12' lodgepole pine stock. Presently a post and rail harvest is being conducted on 20 acres for 100 MBF to the west of the proposed project.

Lodgepole pine dominants as a seral species with Subalpine fir/Grouse Whortleberry (Abla/Vasc) as the dominant habitat type. The area lies along the drought limitations of the habitat type and consequently subalpine fir is sparsely represented. Douglas-fir is indicated as a climax species on the drier slopes with Douglas-fir/Pine Grass (Psme/Caru) as the habitat type. The irregular topography and hummocky features in the area are conducive for forming frost pockets that favor lodgepole pine as the seral species. Douglas-fir is quite often poorly formed and stunted in these areas but does grow well on the upland slopes and sites indicating Douglas-fir climax.

The cover type is lodgepole pine and the majority of forested stands are included in fire group seven where periodic wildfires tended to recycle the stands before any significant amount of mature lodgepole pine dies out. The isolated Douglas-fir climax areas are included in fire group six.

Harvest Unit (35 ac/275 MBF)

The stand is single storied composed predominately of lodgepole pine with scattered Douglas-fir found in the southern tip of the unit, including a few old relic trees. The northeast edge of the unit (~12 acres) is a mix of aspen and lodgepole pine encroachment. Lodgepole pine is even-aged (90-120 years), averaging 10 inches in diameter and exhibiting poor to moderate growth due to age, overstocking and a moderate infestation of dwarf mistletoe. Average dominate trees are 65' and co-dominates are 55'. Yield capacity is 45-55 cu. ft/acre. Regeneration is minimal and understory vegetation is moderate with moderate coarse woody debris.

Main Conifer Area - A regeneration harvest of all lodgepole pine sawtimber and a modified selection/seed tree harvest for Douglas-fir sawtimber would be utilized. Desirable Douglas-fir dominate/co-dominate trees would be left for seed source where available. Harvest is designed to reduce over stocking and suppression, fire hazard, and insect and disease.

Aspen Area - A regeneration harvest of all lodgepole pine sawtimber would be used to reduce conifer encroachment and promote restoration of the aspen stand. Submerchantable conifer and aspen would not be protected during harvest operations to further reduce conifer encroachment and induce suckering of aspen. Post harvest treatment to fall and lop any remaining submerchantable conifer trees.

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 5-7 years and a thinning survey in 15-20 years.

ATTACHMENT H

LIST OF INDIVIDUAL SCOPING NOTICES

AMERICAN WILDLANDS, BOZEMAN, MT
NATIONAL WILDLIFE FEDERATION, MISSOULA, MT
MONTANA AUDUBON COUNCIL, DILLON, MT
SKYLINE SPORTSMEN'S ASSOC. INC., BUTTE, MT
GREATER YELLOWSTONE COALITION, BOZEMAN, MT
LOUISIANA-PACIFIC, DEER LODGE, MT
MONTANA WILDERNESS ASSOCIATION, HELENA, MT
MONTANA ACTION FOR ACCESS, RAMSAY, MT
ALLIANCE FOR THE WILD ROCKIES, MISSOULA, MT
WISDOM RANGER DISTRICT, WISDOM, MT
BUREAU OF LAND MANAGEMENT, DILLON, MT
SOUTHWEST MT WILDLANDS ALLIANCE, BUTTE, MT
AMERICAN FISHERIES SOCIETY, BOZEMAN, MT
MATADOR RANCH, DILLON, MT
PINTLAR AUDUBON SOCIETY, TWIN BRIDGES, MT
F.H. STOLTZE LAND & LUMBER, COLUMBIA FALLS, MT
MT WOOD PRODUCTS ASSN., HELENA, MT
CONFEDERATED SALISH & KOOTENAI TRIBES, PABLO, MT
STUART LEWIN, GREAT FALLS, MT
THE ECOLOGY CENTER, INC., MISSOULA, MT
PLUM CREEK TIMBER CO., COLUMBIA FALLS, MT
DNRC, HELENA, MT
FRIENDS OF THE WILD SWAN, SWAN LAKE, MT
FISH, WILDLIFE, & PARKS, BOZEMAN, MT
R-Y TIMBER, INC., TOWNSEND, MT
MT COALITION FOR APPROPRIATE MANAGEMENT OF STATE LAND, BUTTE, MT
ANACONDA SPORTSMAN, ANACONDA, MT
MWF, HELENA, MT
NATIONAL WILDLIFE FEDERATION, MISSOULA, MT
OFFICE OF THE SECRETARY OF STATE, HELENA, MT
EVAN HUNTSMAN, DELL, MT
RED ROCK LAKES NATIONAL WILDLIFE REFUGE, LIMA, MT
MT SOCIETY FOR CONSERVATION BIOLOGY, MISSOULA, MT
BEAVERHEAD COUNTY RESOURCE USE COMMITTEE, DILLON, MT
DNRC FOREST MANAGEMENT BUREAU, MISSOULA, MT
DILLON RANGER DISTRICT, DILLON, MT
FISH, WILDLIFE, & PARKS, DILLON, MT
SITZ ANGUS FARMS, DILLON, MT
THOMAS & DAVID MITCHELL, DILLON, MT
LAZY CA, JACKSON, MT
GARY CARSON, OGDEN, UT

ROY LOVE, POLSON, MT
MICHAEL LOVERIDGE, HAMILTON, MT
ROCKING JR, DILLON, MT