

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Monkey Boy Timber Permit
Proposed Implementation Date:	June 15, 2006
Proponent:	Department of Natural Resources and Conservation / Dillon Unit
Location:	NE1/4 Section 16, Township 5 South, Range 3 West
County:	Madison

I. TYPE AND PURPOSE OF ACTION

Commercial timber permit to harvest an estimated 100 MBF of Douglas-fir timber from approximately 26 acres of tractor ground. Purpose of action is to generate revenue for the school trust, improve forest health and productivity by removing overstocked and insect damaged 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 December 2004 by Gwen Curr, DNRC forester Chuck Barone, and Dillon Unit Manager Richard Moore.

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

- Fish, Wildlife and Parks, Regional Supervisor, P. Flowers
- Fish, Wildlife and Parks, Wildlife Biologist, R. Brannon
- Fish, Wildlife and Parks, Fisheries Management Biologist, R. Oswald
- USFS, Madison Ranger District, M. Petroni
- BLM, T. Bozorth
- B. Ratcliffe
- J. Edwards
- H. W. Baitis (Lessee)

RECEIVED

MAR 08 2006

LEGISLATIVE ENVIRONMENTAL
 POLICY OFFICE

Other contacts:

- DNRC, Archaeologist, P. Rennie
- Montana Natural Heritage Program
- Montana Fisheries Information System
- Madison County Board of Commissioners

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

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

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

A 124 permit from MT FWP would be required for the temporary culvert installation on existing road.

3. ALTERNATIVES CONSIDERED:

Action Alternative: Harvest ~100 MBF of overstocked and insect damaged timber from an estimated 26 acres of State land, located in Section 16-T5S-R3W.

Stand treatments would consist of harvesting approximately 65-75% of the merchantable sawtimber from harvest unit 1 and up to 90% of the conifer trees in harvest unit 2. Harvest design is intended to maintain a semblance of historic conditions while improving forest health and productivity by removing overstocked and insect damaged timber (unit 1), and promoting restoration of aspen stands (unit 2), by emulating mixed severity and stand replacing fires. Approximately 700 feet of temporary, minimum standard new road construction would be needed to access harvest unit 1. An 18" x 24' culvert would need to be installed on an existing spur road to access harvest unit 2. 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 sale area is located on gentle to moderate slopes with a slope range of 10-25%. No unusual or unique geologic features were noted in the proposed harvest area. Primary soils within the proposed harvest area are Shadow very channery sandy loam and stony loam. These soils are coarse textured, generally shallow, well drained and very droughty. The erosion hazard is moderate and appropriate erosion control measures would be required on all roads and skid trails.

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 shade and organic matter to maintain soil productivity.

Soil effects would be minimal and long-term productivity would be maintained or improved by implementing mitigation measures, BMP's and reducing the stocking to make nutrients available to retained trees. There are no apparent direct and indirect impacts to soils in project area. No significant impacts or cumulative effects are expected to soil resources.

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 project area lies within the upper reaches of Monkey Gulch drainage, a tributary of California Creek, and includes two intermittent drainages. No fisheries are present within the State parcel but fisheries are found in California Creek, which is a tributary of the Ruby River

The Missouri River drainage, including tributaries to the Ruby 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, and agricultural and industrial 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.

Harvest and road levels within the Monkey Gulch watershed are well below the levels of forest crown removal that are normally associated with increased water yields. 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 Monkey Gulch watershed.

Harvest activities would occur on gentle to moderate slopes ranging from 10 to 25% with moderate erosion risk. 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 fisheries 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 culvert (18" x 24") installation on an existing road across an intermittent stream would be needed to access harvest unit 2. This would require a 124 permit from the MT FWP. No adverse effects to downstream water quality or cold-water fisheries are expected to occur due to the proposed crossing.

The proposed timber harvest and minor 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. Given the low relative harvest area (2.2% of the watershed), <100' of harvest unit adjacent to SMZ, no harvesting within the SMZ and minimal road construction away from fisheries resources, no foreseeable direct, indirect or cumulative impacts are anticipated to cold-water fisheries or any other beneficial uses associated with the Monkey Gulch watershed. No direct, indirect, or cumulative impacts to water quality, cold-water fisheries, or other beneficial uses in California Creek or the Ruby River are expected to result from the proposed actions.

Due to the size and duration of the proposed project, minimal road construction and additional recommended mitigation measures, no impacts are expected to occur to water quality, water yield, watershed conditions, or fisheries in the Monkey Gulch watershed or any downstream tributaries.

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 in the southwest Tobacco Root Mountains along the forest/grassland interface. Slopes range from 10-45% with an elevation range of 7000-7400 feet. The State parcel has ~289 forested acres and was harvested 20 years ago, removing 853 MBF from 86 acres. Forested acres are dominated by Douglas-fir found primarily on south slopes, and some lodgepole pine found primarily on north slopes and in drainage bottoms. The cover type is Douglas-fir and the habitat type is Douglas-fir/Pine Grass (Psme/Caru) with Subalpine fir/Grouse Whortleberry (Abla/Vasc) found in sites that are predominately lodgepole pine.

Forested stands are included in fire group six with Douglas-fir the climax species and a vigorous seral along with lodgepole pine on the more northerly slopes. The fire disturbance regime was typically low to moderate severity fires converting stands to fairly open conditions with stand replacing fires occurring in more dense, overstocked areas. 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.

Unit 1 is composed of a mix of Douglas-fir post and rail, and small to medium sawtimber. A handful of old relic trees are scattered through the stand. The stand is overstocked and suppressed and has moderate to severe spruce budworm damage with upper crowns showing up to 50% defoliation and scattered tree mortality. Unit 2 is composed of Douglas-fir (~60%) and aspen (35%) with lodgepole pine as a minor seral component and a few old DF relic trees. The stand was predominately aspen that has been overtaken by conifer due to encroachment. Most of the aspen is still relatively healthy. The conifer is in moderately good health but is overstocked and suppressed, with light spruce budworm infestation in the upper crowns.

Overall health and growth of all the Douglas-fir stands are poor to fair and are generally suppressed due to overstocking with spruce budworm present in all stands. Scattered individuals and small clumps (<5 acres) of old relic Douglas-fir trees do occur within the proposed units. Historically, these remnants were typically naturally fragmented, open-park like communities maintained by frequent low intensity fires. The present percentage of old growth cover types on State lands is nearly twice the estimated percentage that is likely to have historically occurred on State lands in Madison County. Large live trees, snags and coarse woody debris, which are important attributes associated with old growth and future development of old growth, would be retained within the harvest units where present. There is currently more total forest cover in Madison County than in prior historical conditions.

The proposed harvest represents 9.0% of the total forested acres within the State parcel and 3.2% of the forested acres within the Monkey Gulch watershed. Harvesting an estimated 100 MBF of timber would alter the forest cover on approximately 26 acres. Harvest design is intended to maintain a semblance of historic conditions while promoting forest health, productivity and aspen restoration by reducing overstocking through emulation of mixed severity and stand replacing fires. Natural regeneration would be expected.

No rare plants or cover types have been noted or observed within the 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.

(See Attachments 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 big game, small mammals, raptors and songbirds potentially use this area. The intermediate tributaries of Monkey Gulch have no cold-water fisheries.

Monkey Gulch Drainage lies within the Tobacco Root Elk Management Unit. Elk security, bull elk vulnerability and potential reductions in hunter opportunity are a primary concern expressed by DFWP in this hunting district. 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.

Although security cover is moderately limited in the area, no significant impacts to wildlife are anticipated due to the size of the proposed project. The proposed project would not affect the present public access, which already affords moderate to high human levels.

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 E & F – 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.

No cold-water fisheries exist within the project area, however, westslope cutthroat trout (*Oncorhynchus clarki lewisi*) populations are found in California Creek, which is tributary to Monkey Gulch. Due to the size and duration of the proposed project, gentle topography, intermittent nature of the streams, minimal road construction and additional recommended mitigation measures; no impacts are expected to occur concerning cold-water fisheries.

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 Freezeout and Gravelly 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 effect wolves or recovery efforts.

No other sensitive species/species of special concern have been documented or observed within the proposed project area.

Due to the size and duration 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 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.

There is no record that cultural resources exist within the proposed project area. No additional archaeological investigative work is recommended prior to harvest activities.

A local landmark known as the "Tradin' Tree" is located on the State parcel but not within the proposed project area. No impacts to this landmark are expected.

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 area is not visible to any populated area. 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.

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 April 1986 for the Monkey Gulch Timber Sale (Section 16-T5S-R3W) for the harvest of 853 MBF on 86 acres.

A range evaluation was conducted in July 2002.

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 having 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 \$17,500.00 (100 MBF of sawtimber @ \$175.00/MBF)

Income from a grazing license of \$989.36/year for 149 AUM of use would continue with or without the harvest proposal.

EA Checklist Prepared By:	Name: Chuck Barone	Date: January 3, 2006
	Title: Dillon Unit Forester	

V. FINDING

25. ALTERNATIVE SELECTED:

After review, I have selected the proposed Action Alternative, to harvest approximately 100 MBF of insect damaged and overstocked timber from an estimated 26 acres of School Trust land and construct approximately 700' of temporary new road. 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, maintaining a semblance of historic conditions, promoting restoration of aspen stands, minimizing road construction, 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, sale design, contract provisions, project administration, BMP and SMZ law compliance, minimal new road construction, and additional recommended mitigation measures, 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.
- 2) 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 and skid trails.
- 3) 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 tractor skidding to slopes less than 45%. 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.
- 4) 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. All new construction would be closed with slash and debris.
- 5) The culvert installation activities would comply with the guidelines and specifications stated in the 124 permit.
- 6) 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.
- 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) County Road: Board of Commissioners would be notified of project start-up and closure dates. Truck hauling signs would be posted at the beginning of the county road and entering /leaving the tight corner ~5 miles up the county road. Logging signs would be posted entering/leaving the State section. Log hauling would be restricted on weekends. Road would be kept free of logging debris and any disturbed areas on the county road within Sate Section 16-T5S-R3W would be rehabilitated to pre-harvest condition.

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: January 4, 2006

ATTACHMENTS

- A – Site Specific Map/Vicinity Map
- B – Vegetative Analysis/Stand Prescription
- E – Checklist for Endangered, Threatened and Sensitive Species
- F – Montana Natural Heritage Program/
Montana Fisheries Information System

Kings

AWW

ATTACHMENT A

Proposed Monkey Boy Timber Permit
Section 16-T5S-R3W, Madison County



-  County Road
-  Existing Road
-  New Construction
-  Harvest Unit
-  Historical Landmark

USFS

USFS

USFS

BLM

STATE

16-T5S-R3W
16

PRIVATE

BLM

6961T

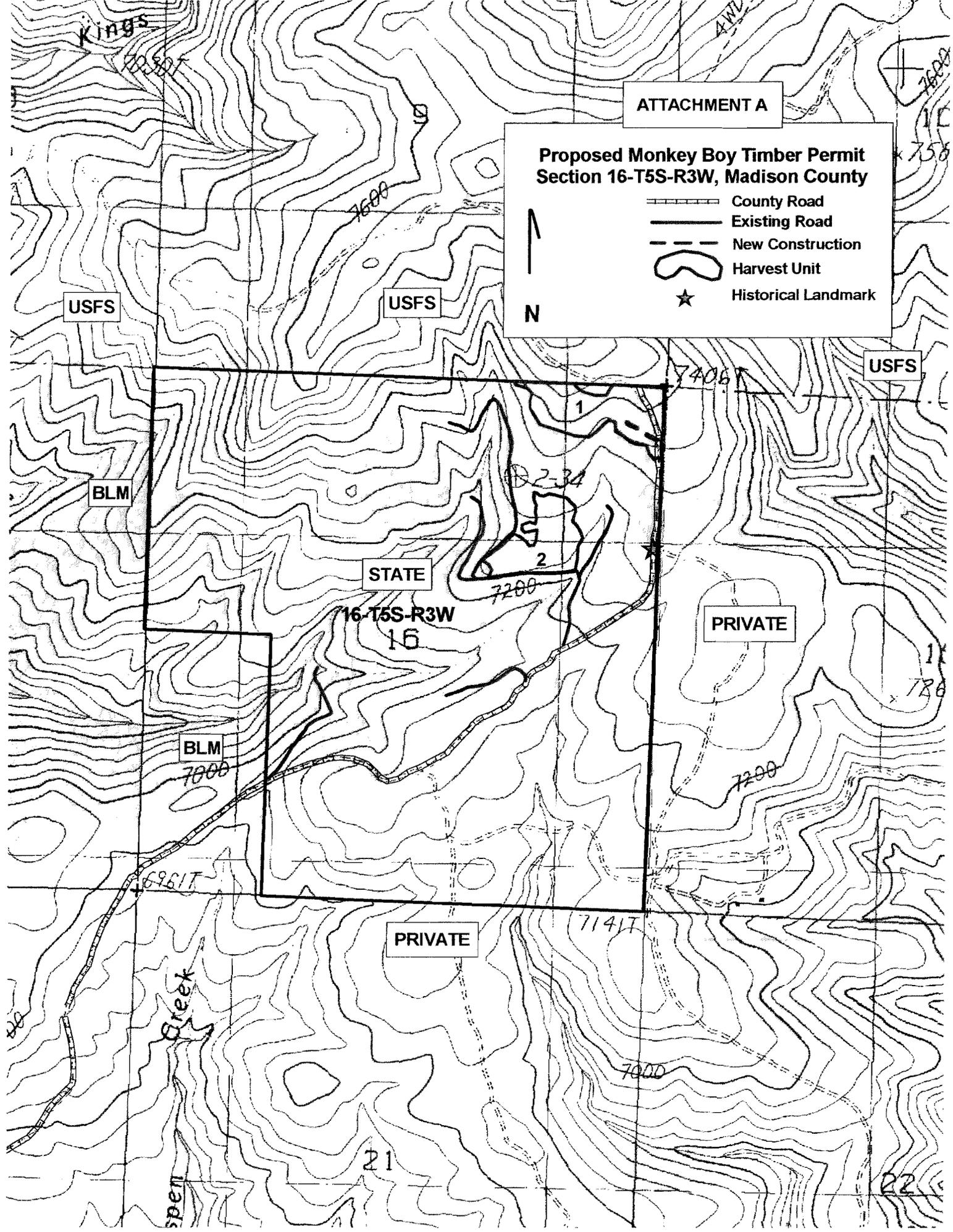
PRIVATE

7141T

Creek

21

22



ATTACHMENT B

Vegetative Analysis/Stand Prescription

The State parcel is located in the southwest Tobacco Root Mountains along the forest/grassland interface. Slopes range from 10-45% with an elevation range of 7000-7400 feet. The State parcel has ~289 forested acres and was harvested 20 years ago, removing 853 MBF from 86 acres. Additional logging occurred ~50 - 70 years ago removing some larger Douglas-fir scattered throughout the stands. Forested acres are dominated by Douglas-fir found primarily on south slopes, and lodgepole pine found primarily on north slopes and in drainage bottoms, where productivity is significantly better. The cover type is Douglas-fir and the habitat type is Douglas-fir/Pine Grass (Psmc/Caru) with Subalpine fir/Grouse Whortleberry (Abla/Vasc) found in sites that are predominately lodgepole pine. Forested stands are included in fire group six with Douglas-fir the climax species and a vigorous seral along with lodgepole pine on the more northerly slopes. The fire disturbance regime was typically low to moderate severity fires converting stands to fairly open conditions with stand replacing fires occurring in more dense, overstocked areas. 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.

Overall health and growth of all the Douglas-fir stands are poor to fair and are generally suppressed due to overstocking with spruce budworm present in all stands. Scattered individuals and small clumps (<5 acres) of old relic Douglas-fir trees do occur within the proposed units. Historically, these remnants were typically naturally fragmented, open-park like communities maintained by frequent low intensity fires. The present percentage of old growth cover types on State lands is nearly twice the estimated percentage that is likely to have historically occurred on State lands in Madison County. Large live trees, snags and coarse woody debris, which are important attributes associated with old growth and future development of old growth, would be retained within the harvest units where present. There is currently more total forest cover in Madison County than in prior historical conditions.

Unit 1 (15 ac) - Stand is composed of a mix of DF post and rail, and small to medium sawtimber with an occasional LP. A handful of old relic trees are scattered through the stand. The stand is overstocked and suppressed and has moderate to severe spruce budworm damage with upper crowns showing up to 50% defoliation with scattered tree mortality. Majority of trees have poor to very poor crown ratios (10-30%) and those with slightly better crowns are rounded or flattened. Dominate trees are 60-65' and co-dominates are 45-55' with an age of 90 -100 years. Yield capacity is 30-40 cu. ft/acre. Regeneration and understory vegetation is sparse with very little coarse woody debris.

Due to the lack of good, healthy seed stock and the crown damage from the spruce budworm infestation, a modified selection/seed tree harvest would be used to reduce over stocking and suppression, fire hazard, and insect and disease. Desirable dominate/co-dominate trees would be left for seed source where available with the remaining sawtimber to be removed.

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.

Unit 2 (11.5 ac) - Stand is composed of DF (~60%) and aspen (35%) with LP as a minor seral component and a few old DF relic trees. The stand was predominately aspen that has been overtaken by conifer due to encroachment. Most of the aspen is still relatively healthy. The conifer is in moderately good health but is overstocked and suppressed, with light spruce budworm infestation in the upper crowns. Dominate trees are 60-70' and co-dominates are 50-55' with an age of 90 -120 years. Yield capacity is 45-55 cu. ft/acre. Regeneration and understory vegetation is moderate with moderate coarse woody debris consisting predominately of aspen.

ATTACHMENT B

Vegetative Analysis/Stand Prescription

The State parcel is located in the southwest Tobacco Root Mountains along the forest/grassland interface. Slopes range from 10-45% with an elevation range of 7000-7400 feet. The State parcel has ~289 forested acres and was harvested 20 years ago, removing 853 MBF from 86 acres. Additional logging occurred ~50 - 70 years ago removing some larger Douglas-fir scattered throughout the stands. Forested acres are dominated by Douglas-fir found primarily on south slopes, and lodgepole pine found primarily on north slopes and in drainage bottoms, where productivity is significantly better. The cover type is Douglas-fir and the habitat type is Douglas-fir/Pine Grass (Psme/Caru) with Subalpine fir/Grouse Whortleberry (Abla/Vasc) found in sites that are predominately lodgepole pine. Forested stands are included in fire group six with Douglas-fir the climax species and a vigorous seral along with lodgepole pine on the more northerly slopes. The fire disturbance regime was typically low to moderate severity fires converting stands to fairly open conditions with stand replacing fires occurring in more dense, overstocked areas. 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.

Overall health and growth of all the Douglas-fir stands are poor to fair and are generally suppressed due to overstocking with spruce budworm present in all stands. Scattered individuals and small clumps (<5 acres) of old relic Douglas-fir trees do occur within the proposed units. Historically, these remnants were typically naturally fragmented, open-park like communities maintained by frequent low intensity fires. The present percentage of old growth cover types on State lands is nearly twice the estimated percentage that is likely to have historically occurred on State lands in Madison County. Large live trees, snags and coarse woody debris, which are important attributes associated with old growth and future development of old growth, would be retained within the harvest units where present. There is currently more total forest cover in Madison County than in prior historical conditions.

Unit 1 (15 ac) - Stand is composed of a mix of DF post and rail, and small to medium sawtimber with an occasional LP. A handful of old relic trees are scattered through the stand. The stand is overstocked and suppressed and has moderate to severe spruce budworm damage with upper crowns showing up to 50% defoliation with scattered tree mortality. Majority of trees have poor to very poor crown ratios (10-30%) and those with slightly better crowns are rounded or flattened. Dominate trees are 60-65' and co-dominates are 45-55' with an age of 90 -100 years. Yield capacity is 30-40 cu. ft/acre. Regeneration and understory vegetation is sparse with very little coarse woody debris.

Due to the lack of good, healthy seed stock and the crown damage from the spruce budworm infestation, a modified selection/seed tree harvest would be used to reduce over stocking and suppression, fire hazard, and insect and disease. Desirable dominate/co-dominate trees would be left for seed source where available with the remaining sawtimber to be removed.

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.

Unit 2 (11.5 ac) - Stand is composed of DF (~60%) and aspen (35%) with LP as a minor seral component and a few old DF relic trees. The stand was predominately aspen that has been overtaken by conifer due to encroachment. Most of the aspen is still relatively healthy. The conifer is in moderately good health but is overstocked and suppressed, with light spruce budworm infestation in the upper crowns. Dominate trees are 60-70' and co-dominates are 50-55' with an age of 90 -120 years. Yield capacity is 45-55 cu. ft/acre. Regeneration and understory vegetation is moderate with moderate coarse woody debris consisting predominately of aspen.

A regeneration harvest of all 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. Old DF relic trees would be protected. 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 years to monitor aspen and a thinning in 10 years to remove any conifer regeneration.

The proposed harvest represents 9.0% of the total forested acres within the State parcel and 3.2% of the forested acres within the Monkey Gulch watershed. Harvesting an estimated 100 MBF of timber would alter the forest cover on approximately 26 acres. Harvest design is intended to maintain a semblance of historic conditions while promoting forest health, productivity and aspen restoration by reducing overstocking through emulation of mixed severity and stand replacing fires.

ATTACHMENT E

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

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 been documented within the quarter latilong (L38C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). 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.
Gray Wolf (<i>Canis lupus</i>) Habitat: ample big game pops., security from human activity	[N] The proposed project area falls within the Yellowstone Nonessential Experimental Area for gray wolves. The Freezeout and Gravelly 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 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 20 miles southeast of the project area. The project area is comprised of dry forest types not typically preferred by bears. Grizzly bear use of the Tobacco Root 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 do not occur in the project area. Human access levels are presently moderate to high due to the public access. Approximately 500 feet of new road would be constructed to low standard. The potential for any measurable increases in bear-human conflicts following 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>Lynx (<i>Felis lynx</i>) Habitat: mosaics--dense sapling and old forest >5,000 ft. elev.</p>	<p>[N] 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 present in the project area. Lynx habitat is marginal due to the lack of highly desirable habitat conditions for lynx and their primary prey, snowshoe hares. Due to the generally low suitability of habitat in the project area, direct, indirect or cumulative impacts to lynx would not be expected to occur as a result of this project.</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 Douglas-fir forest</p>	<p>[N] Flammulated owls have not been documented within the quarter latilong (L38C) that the proposed project area lies within (Skaar 1996, MNHP 2003). The parcel involved in this project maintains elevations that range from about 7,000-7,400 feet and cool, dry Douglas-fir cover types characteristic of this area are not preferred habitat for flammulated owls. 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 (L38C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). Stands found within the project area are presently experiencing substantial insect activity but no recent burns (<5 years old) have occurred within the State tract 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 (L38C) 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 or cumulative effects analysis 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. Thus, 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 in the quarter latilong (L38C) 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 been documented within the quarter latilong (L38C) that encompasses the proposed project area (Skaar 1996, MNHP 2003). However, 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.</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 (L38C) 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 (L38C) 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>

Montana Natural Heritage Program

Map Label	Scientific Name	Common Name
1	<i>Oncorhynchus clarki lewisi</i>	Westslope Cutthroat Trout

Biological Information

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

Element Subnational ID	14899	EO Number	4	Global Rank	G4T3	State Rank	S2
USFWS Endangered Species Status		Forest Service Status		BLM Status		SENSITIVE	

Observation Dates: Last First

EO Data
 APPROXIMATE NUMBERS OF STREAMS: - WITH PURE POPULATIONS = 6; - WITH POTENTIALLY PURE POPULATIONS = 0; - WITH 90-99% PURE POPULATIONS = 10. IDENTIFIED POPULATION AGGREGATES: NONE.

General Description
 POPULATIONS TESTED PURE IN: BIVENS, GEYSER, HARRIS, N FK RAMSHORN, W FK SWEETWATER, & WHITE BEAR CREEKS.

General Comments
 FOR INFORMATION ON SPECIFIC POPULATIONS, CONTACT MONTANA FISH, WILDLIFE & PARKS OR QUERY THE MONTANA RIVERS INFORMATION SYSTEM @ <http://nris.state.mt.us/wis/mris1.html>.

References
 Montana Department of Fish, Wildlife & Parks. 1999. Memorandum of understanding and conservation agreement for westslope cutthroat trout (*Oncorhynchus clarki lewisi*) in Montana. 28pp. Montana Fish, Wildlife & Parks. 1959-to date. Montana Rivers Information System. Information Services Unit, Fisheries Division, Helena, MT. <http://nris.state.mt.us/wis/mris1.html> or 406-444-3345.

Specimen

Representation Accuracy Low (>0%, <=20%)

Size (acres): Observed EO Rep. Size (acres): 2518.11

Min. Elevation (feet) 4,823 Max. Elevation (feet) 9,504

County Beaverhead, Madison

Land Owner/Manager

Montana Natural Heritage Program

Map Label	Scientific Name	Common Name
2	<i>Centrocercus urophasianus</i>	Greater Sage-grouse

Biological Information

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

Element Subnational ID	10626	EO Number	1360	Global Rank	G4	State Rank	S3
USFWS Endangered Species Status		Forest Service Status		SENSITIVE		BLM Status	SENSITIVE

Observation Dates: Last

First

EO Data

General Description

General Comments

References

Specimen



Report 1 of 1
Select Form

Map Waterbody

California Creek Tributary Of: Ruby River

Total Length (Mi): 10.9

Report is based on River Miles(rm): (0.0 to 10.9)

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

Hydrologic Units:

10020003 Ruby,

Counties:

Madison,

FWP Management

Waterbody Location	Region/Fish District	Management
From (rm 0.0) to (rm 10.9)	3 / Central	Trout Water

Fish Species Present

Species	Abundance	Water Use	Data Quality
Westslope Cutthroat Trout			
From (rm 5.3) to (rm 8.0)	Common	Year-round resident	No Survey, Professional judgment
From (rm 8.0) to (rm 10.1)	Common	Year-round resident	No Survey, Professional judgment

Population Trend Data

No Population Estimates Available

Genetics

From (rm 7.8) to (rm 7.9)

Date	Collector	Agency	TR	Analyzer	Date
9/2/1992	Browning, Dave	FS	T05SR03W	Leary, Robb	4/23/1992
Sample #: 703					
Number of Fish: 15					
Analysis Type: Allozymes					
			Percentage	Count	Hybridization
		Westslope Cutthroat Trout	95.3	0	0
		Yellowstone Cutthroat Trout	4.7	0	0

From (rm 9.5) to (rm 9.6)

Date	Collector	Agency	TR	Analyzer	Date
8/18/1997	Brammer, Jim	FWP	T05SR03W	Leary, Robb	8/20/1998

Sample #: 1237	
Number of Fish: 8	Percentage Count Hybridization
Analysis Type: Allozymes	Westslope Cutthroat Trout 100 0 0

Angling Use - Days Per Year

From (rm 0.0) to (rm 10.9)

Year	Total			Resident			Non Resident			Ranking	
	Press.	s.d.	Trips	Press.	s.d.	Trips	Press.	s.d.	Trips	State	Region
1993	43	43	1	43	43	1	0	0	0	1432	339
1991	102	59	3	102	59	3	0	0	0	1017	244

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	Sport	Final Value
	Class	Class	
From (rm 0.0) to (rm 2.9)	6	5	Limited
From (rm 2.9) to (rm 10.9)	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

Leary, Robb ,University of Montana, 1998

ATTACHMENT F

Montana Species of Concern

Monkey Boy

- Search Area
- Biological Data**
- Vulnerable animal
- Community animal
- Nonvascular Plant
- Other
- Vascular Plant
- Conservation Easements**
- Special Designations
- Other special Areas (ACEC, RNA, PRIM)
- Research Natural Areas (all agencies)
- Wilderness (all agencies)
- Wild and Scenic Rivers (all agencies)
- Land Study
- Bureau of Land Management
- Bureau of Reclamation
- Army Corps of Engineers & US Dept of Defense
- National Park Service
- US Forest Service
- Other US Dept of Agriculture
- Bureau of Indian Affairs
- Bureau of Indian Affairs Trust
- Tribal
- State Trust
- Montana Fish, Wildlife, & Parks
- University & Institutions
- County & City
- Private Conservation
- Other private
- Water



Species locations depicted outside the search area have imprecisely known locations and may actually occur within the search area

Not all legend items may occur on map

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

This map displays management status, which may differ from ownership

Refer to accompanying documentation for full explanation of map features

