

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Toomey Two Timber Sale
Proposed Implementation Date:	October 1, 2006
Proponent:	Department of Natural Resources and Conservation / Dillon Unit
Location:	Section 36, Township 1 North, Range 14 West (Common Schools trust beneficiary)
County:	Beaverhead

I. TYPE AND PURPOSE OF ACTION

Commercial timber sale to harvest an estimated 790 MBF of lodgepole pine and Douglas-fir timber from approximately 106 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 March 2005 by B. Roberts, M. Cheff and DNRC Forester C. Barone and in October 2005 by DNRC Supervisor Resource Management G. Frank, Soil Scientist J. Collins and Forester C. Barone.

Individual scoping notices were sent in March and May 2005. (See Attachment H – List of scoping notices).

Publication of a Legal Notice in the Dillon Tribune on January 11 and 25, 2006 and the Montana Standard on January 8 and 15, 2006.

Other contacts:

DNRC, Archaeologist, P. Rennie
DNRC, Wildlife Biologist, R. Baty
FWP, Wildlife Biologist, C. Fager
Christiansen East Bench Ranch
Montana Natural Heritage Program
Montana Fisheries Information System

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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.

Access to the State parcel would require a temporary road use agreement with the BLM and a private landowner.

3. ALTERNATIVES CONSIDERED:

Action Alternative: Harvest ~790 MBF of overstocked and diseased timber from an estimated 106 acres of State land, located in Section 36-T1N-R14W.

Stand treatments would consist of a regeneration harvest of all lodgepole pine sawtimber and a group selection/selection harvest for Douglas-fir sawtimber. Desirable Douglas-fir dominate/co-dominate trees would be left for seed source where available. Harvest design is intended to maintain a semblance of historic conditions while improving forest health and productivity by reducing stand overstocking, fire hazard, susceptibility to insect and disease, and promote restoration of aspen in selected portions of the stands, by emulating mixed severity and stand replacing fires. Approximately 0.1 miles of temporary, minimum standard new road construction and 0.2 miles of road reconstruction would be needed to access the harvest units. 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 Toomey Two sale area is located on moderate slopes with soils weathering from coarse granitics and valley fill deposits of the Boulder Batholith. Bedrock and boulders are common at shallow depth, mainly along ridges and convex slopes. No especially unique or unstable geology or soils occur in the proposed harvest areas.

Forested sites are predominately on northerly aspects with mixed sagebrush range on dryer ridgelines and southerly aspects. Primary forest soils have moderate depth (4-10") topsoils over coarse, gravelly loamy sand subsoils. These soils are well-drained, tend to be droughty, and have a long season of use. Soils are erosive and can be easily disturbed but risk is moderate on the gentle slopes proposed for harvest. Compaction risk is moderate to low. Scarification should be light to avoid displacing the topsoil, which retains the most fertility and moisture important for seedling growth. Swales and isolated wetlands within the section typically have deeper sandy clay rich soils that are subject to rutting if operated on and should be avoided by traffic. The area is a cool site subject to frost and the proposed harvest is expected to encourage lodgepole regeneration. Leaving slash would provide shade to enhance survival of seedlings and provide protection from animal use.

The proposed road is well located to access timber while avoiding wet areas and rock outcrops and would be easy to stabilize and revegetated similar to the existing road conditions.

Primary soil concerns are potential rutting, and excessive surface disturbance with harvest operations and site preparation. Planned ground skidding operations and temporary road construction would have moderate to low direct, in-direct and cumulative impacts. To maintain soil productivity, and promote conifer regeneration, BMP's and mitigation measures would be implemented to minimize the area and degree of soil effects associated with harvest operations. 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. The proposed harvest would not have any additive effect on previous harvest units and there is low risk of cumulative effects.

(See Attachment B – Soils and Geology Assessment)

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

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

The proposed Toomey Two Timber Sale is located in the Toomey Creek watershed situated in the West Pioneer Mountains. Toomey Creek is a 3rd order perennial tributary to the Big Hole River within the Missouri River Basin. Toomey Creek drains a watershed area of approximately 6,780 acres. The mainstem stream channel of Toomey Creek is not located within the State parcel or within the immediate vicinity of any of the proposed road construction or existing road proposed for use for access and hauling. The proposed harvest area does contain several isolated wetlands, springs and discontinuous unnamed segments of Class II and Class III streams. All stream segments within the State section are isolated and do not have continuous or direct channel delivery to Toomey Creek.

The proposed haul route would also utilize an existing road located on private land in the Squaw Creek drainage. This segment of road does not contain stream crossings and is not located in an area with direct delivery to stream channels.

The Big Hole River and its tributaries, including Toomey Creek, are classified as A-1 in the Montana Surface Water Quality Standards (ARM 17.30.610(1)(d)). Waters classified A-1 are suitable for drinking, culinary and food processing purposes after conventional treatment for removal of naturally present impurities. Water quality must also be suitable for bathing, swimming and recreation; growth and propagation of salmonid fishes, and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply (ARM 17.30.622(1&2)). Among other criteria for A-1 waters, no increases are allowed above naturally occurring concentrations of sediment, which will or are likely to create a nuisance or renders the waters harmful, detrimental or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife (ARM 17.30.622(3)(f)). Downstream beneficial uses in Toomey Creek include: cold-water fisheries, irrigation, and livestock watering. Toomey Creek has not been identified on the State's 303(d) list of impaired bodies of water in need of TMDL development (MTDEQ 2004).

There are no streams supporting a cold-water fishery within the immediate timber sale project area. The segment of Toomey Creek supporting a fishery is located approximately 0.4 miles down slope of the proposed harvest area. However, there is no direct surface delivery of channel flow to Toomey Creek.

Based on analysis of aerial photos the density of existing roads and level of existing timber harvest in the watershed appear to be low. Road densities are approximately 0.3 miles of road per square mile of watershed area. Approximately 76% of the watershed area is forested and approximately 5% of the watershed area appears to have been harvested in the recent past (over the last 45 years). These levels of activity are well below the levels of forest management that are normally associated with detrimental increases in water yield and sediment yield. Therefore, it is unlikely that there are measurable cumulative effects on stream flow regimes (water yield, magnitude, and duration of peak flows) and sediment yield due to forest road construction and timber harvesting in the Toomey Creek watershed.

The existing road system on the State section contains high standard roads used to access and haul timber during a previous State timber sale, and lower standard roads used for grazing management and unauthorized hunter traffic. While some segments of the lower standard road do not meet BMP's, they do not appear to be impacting water quality due to erosion and direct delivery of sediment. The proposed haul route would utilize an existing road located on private land in the Squaw Creek drainage. This segment of road does not contain stream crossing and is not located in an area with direct delivery to stream channels.

Grazing practices and heavy big game use have also caused detrimental impacts to the ephemeral draws, wet areas and isolated segments of stream channel within the proposed project area on the State section. Streambank and wetland trampling and subsequent erosion have lead to increased levels of in-stream sedimentation on the State section. While these impacts are occurring within the proposed project area, they do not appear to be impacting downstream water quality or downstream beneficial uses due to the discontinuous nature of drainage features occurring within the proposed project area.

The proposed timber harvest activities would result in harvest of approximately 790 MBF from 6 harvest units totaling approximately 106 acres in size, and approximately 0.1 miles of new road construction, 1150 feet of minor road reconstruction (minor re-shaping of road surface) and minor improvements to approximately 1000 feet of existing road. Minor improvements would consist of adding additional road surface drainage features where needed. A majority of the existing road would be used without any reconstruction or improvements. All

of these proposed activities are located in the Toomey Creek watershed. No new stream or reconstructed stream crossing are proposed. The proposed haul route would utilize an existing road located on private land in the Squaw Creek drainage. This segment of road does not contain stream crossings and is not located in an area with direct delivery to stream channels. No new road construction or reconstruction is proposed in the Squaw Creek drainage.

Harvest activities would occur on gentle to moderate slopes ranging from 5 to 30%. Several springs, wet areas, ephemeral draws and isolated segments of Class II and Class III stream channels are located within or immediately adjacent to the proposed harvest areas. All segments of discontinuous stream, wetlands and well-defined ephemeral draws would either be excluded from timber harvest, have SMZ delineated or would incorporate equipment restrictions to prevent excessive levels of soil disturbance and erosion. 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.

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 new or reconstructed stream crossings are included in the proposal. The existing roads that are proposed for access and hauling are not currently contributing direct sediment delivery to streams and the proposed use is not expected to cause direct sediment delivery to streams. No direct or indirect impacts to water quality or downstream beneficial uses, including the cold-water fisheries, in Toomey Creek are anticipated.

The proposed levels of timber harvest 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 due to bank destabilization and in-stream sedimentation resulting from the proposed actions. No cumulative impacts to water quality or beneficial uses in Toomey Creek or Squaw Creek 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 northwest side of the Pioneer Mountains along the forest/grassland interface within the Toomey Creek watershed. Adjacent ownership to the south and east is the Beaverhead-Deerlodge National Forest, to the northwest is BLM and to the north and west is private. Slopes range from 5-35% with an elevation of 6100-6500 feet. The State parcel has 640 acres of which ~417 acres are forested and was harvested approximately 20 years ago, removing 1354 MBF from 124 acres. Approximately 208 acres were harvested in the Toomey Creek and Squaw Creek watersheds on the adjacent private lands 20-25 years ago. The majority of all the harvested acres have regenerated with moderate to heavy 8-15' lodgepole pine growth. A pre-commercial thinning of ~60 acres in the old regenerated harvest units is scheduled for the State parcel over the next five years. There are 5,153 forested acres within the Toomey Creek watershed with ~265 acres (5.1%) having been logged in the last 50 years. Aspen stands are being overtaken by conifer encroachment.

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.

Forested stands within the State parcel occur on northerly aspects and are predominately even aged, single story lodgepole pine cover type. Stand structure is a result of a stand replacing fire that occurred approximately 120 years ago. Subalpine fir is the indicated climax species and 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. Stand composition ranges from dense mature forest to heavily overstocked and near stagnant forest. Regeneration is sparse within untreated stands with moderate understory vegetation and coarse woody debris.

Douglas-fir is indicated as a climax species on the drier slopes with Douglas-fir/Pine Grass (Psme/Caru) as the habitat type. These stands are comprised of moderately to densely stocked forest. Regeneration is sparse within untreated stands with moderate understory vegetation and coarse woody debris. Older Douglas-fir trees (>150 years) occur in most of the stands as scattered individual trees. The south half of unit 6 is comprised of a mix of lodgepole pine and Douglas-fir.

The proposed harvest represents 2.0% of the total forested acres within the Toomey Creek watershed. Harvesting an estimated 790 MBF of timber would alter the forest cover on approximately 106 acres. Harvest design is intended to maintain a semblance of historic conditions while promoting forest health, productivity and aspen restoration by reducing overstocking through the emulation of mixed severity and stand replacing fires.

Data summaries (Losensky 1997) for Beaverhead and Madison Counties were compared with the inventory of State forested lands and anticipated changes under the Action alternative. The data comparison indicates that for either alternative, the forested stands for all cover types on the State lands post-harvest would maintain more total forest cover than in prior historical conditions.

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 Attachment F – 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. Toomey Creek supports a known cold-water fishery, which is located approximately 0.4 miles down slope of the proposed harvest area. However, there is no direct surface delivery of channel flow to Toomey Creek.

Bull elk vulnerability and potential reductions in hunter opportunity are a concern expressed by FWP in this hunting district and the Pioneer EMU. 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 large scale stand-replacement wildfires. Additional reductions in hiding cover and/or security habitat may influence achievement of FWP's harvest goal for this Hunting District and EMU. Timber harvest can reduce cover on winter ranges that is important in providing thermal protection and areas of relatively low snow that help elk to escape from predators and avoid other disturbances with minimal expenditure of energy (FWP 1992). Additionally, harvest activities occurring when winter range is occupied could cause undo stress and disturbance to elk. Harvest activities for the proposed project would occur from October 1 - December 15. The proposed harvest window does not conflict with elk winter range usage (C. Fager, FWP, Pers. Comm. December 2005).

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, F & G – Watershed and Fisheries Assessment; Checklist for Endangered, Threatened and Sensitive Species; Montana Natural Heritage Program/Montana Fisheries Information System; Vegetative Analysis/Stand Prescription; Elk Security and Vulnerability/Winter Range)

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.

Toomey Creek supports a known cold-water fishery. Species present include brook trout, mottled sculpin and westslope cutthroat trout (WCT). Recent fisheries surveys indicate that abundance of brook trout is common, mottle sculpin unknown and WCT are rare (MFISH 2005). Fisheries surveys completed by the U.S. Forest Service in 2002 yielded only a few WCT. The WCT are thought to potentially genetically altered from hybridization (Kujala 2005).

There are no streams supporting a cold-water fishery within the immediate timber sale project area. The segment of Toomey Creek supporting a fishery is located approximately 0.4 miles down slope of the proposed harvest area. However, there is no direct surface delivery of channel flow to Toomey Creek.

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 proposed project area. Occasional use of the area from grizzly bear could potentially occur but is generally considered outside of their normal occupied habitat. Impacts to lynx as a result of this project are expected to be minimal as no mature foraging, young foraging or denning lynx habitat is present within the proposed harvest units. There would be no potential to affect any eagle nesting habitat as the proposed period of harvest activity (October 1 – December 15) would not occur during the nesting season, and the proposed harvest units are ~1 mile or more from the Big Hole River.

The proposed project area falls within the Central Idaho Nonessential Experimental Area for gray wolves. The nearest pack is the Battlefield pack ~20 miles to the southwest. Individuals from these packs or transients from other packs could occasionally use portions of the proposed 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-quarter mile northeast of the State parcel in the Toomey Creek drainage. 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 the cold-water fishery in Toomey Creek 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.

There are no cultural resource concerns within the proposed project area. No additional archaeological investigative work is recommended prior to harvest activities.

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. Portions of Unit 4 could be seen from a small segment of Highway 43 but the unit is ~ 1.4 miles away. 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 February 1987 for the Toomey Creek Timber Sale (Section 36-T1N-R14W) for the harvest of 1354 MBF from 124 acres. An EA was completed in May 1988 for two timber permits (Section 36-T1N-R14W) for the harvest of post & rail from 2 acres. An EA was completed in 1993 for the Toomey Sagebrush Burn (Section 36-T1N-R14W) for the improvement of range and forage production on 175 acres. An EA was completed in 1999 for a spring development (Section 36-T1N-R14W) to protect spring areas through fencing while providing reliable stock water. A range evaluation was conducted in October 2000.

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.

Activities are proposed for October 1 – December 15, which would overlap with the fall hunting season. The proposed project access road on private ownership is part of a FWP Block Management area and would have hunter traffic during periods of log truck hauling.

The public segment of the access road has a good sight radius, which combined with adequately placed traffic signs would allow hunter traffic to avoid any disagreeable encounters with log truck traffic.

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.

Access to the State tract is controlled through private access. Persons having a valid state lands recreational use license or FWP conservation license may conduct recreational activities on the tract by obtaining access from the private landowner. Access is granted through the private lands during the fall hunting season under the FWP Block Management Program. 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 \$143,195.40 (790 MBF of sawtimber @ \$181.26/MBF). This estimate is intended for comparison of alternatives, not as an absolute estimate of return.

Income from a grazing license of \$797.85/year for 135 AUM of use would continue with or without the harvest proposal.

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

V. FINDING

25. ALTERNATIVE SELECTED:

After review, I have selected the proposed Action Alternative, to harvest approximately 790 MBF of overstocked and insect damaged timber from an estimated 106 acres of School Trust land and to construct approximately 0.1 miles of temporary, minimum standard new road construction and 0.2 miles of road reconstruction to access the harvest units. 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, 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 design, short duration, timing of harvest activities, contract provisions and administration, 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 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) 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 and would be effectively closed with slash and debris.
- 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 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.
- 8) Harvest activities for the proposed project would occur from October 1 - December 15 to avoid conflict with elk winter range usage.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS

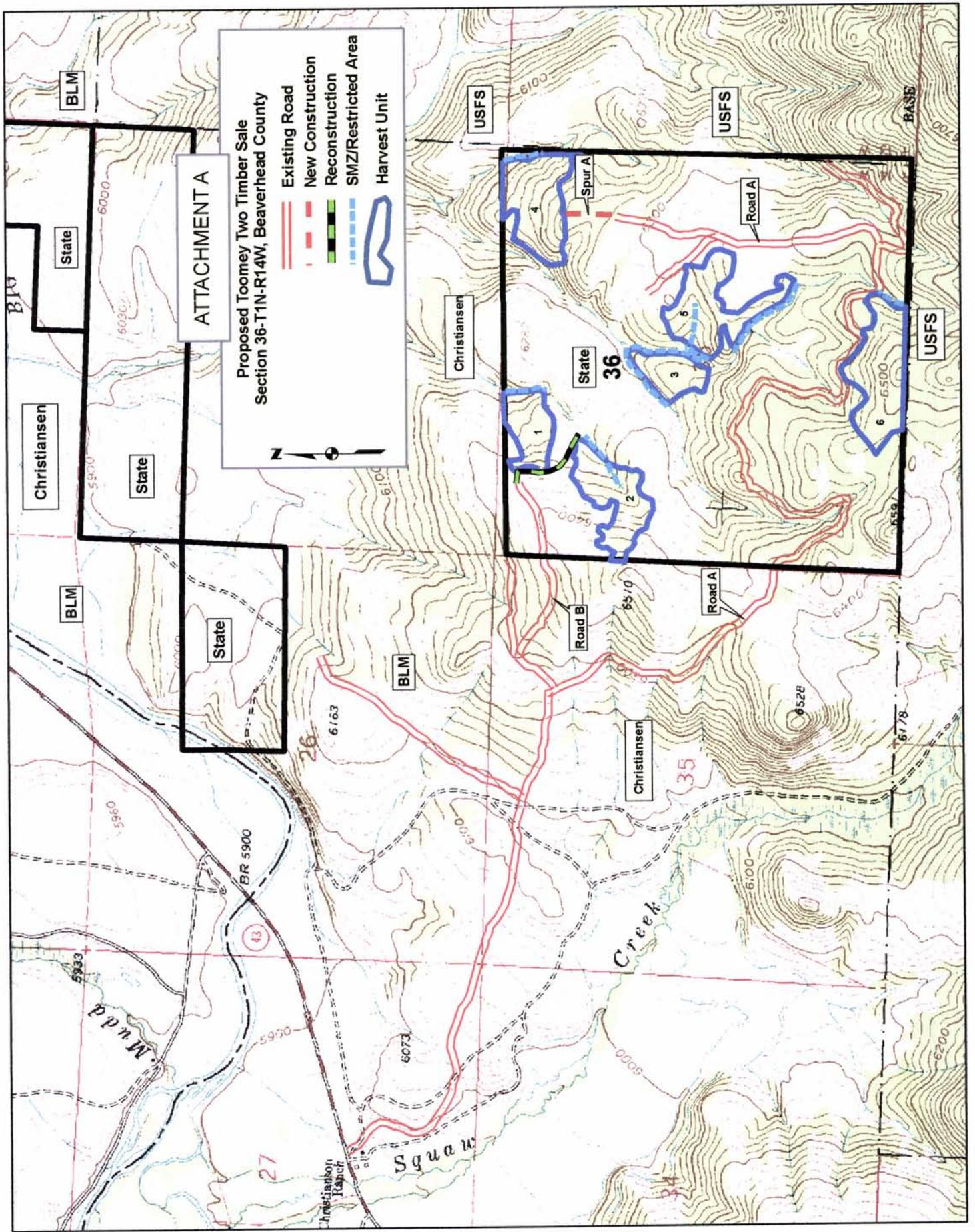
More Detailed EA

No Further Analysis

EA Checklist Approved By:	Name: Richard A. Moore
	Title: Dillon Unit Manager
Signature:	<i>Richard A. Moore</i> Date: May 5, 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
- G - Elk Security and Vulnerability/Winter Range
- H – List of Individual Scoping Notices



ATTACHMENT A

Proposed Toomey Two Timber Sale
 Section 36-T1N-R14W, Beaverhead County

- Existing Road
- New Construction
- Reconstruction
- SMZ/Restricted Area
- Harvest Unit



ATTACHMENT B

SOIL AND GEOLOGY ASSESSMENT PROPOSED TOOMEY TWO TIMBER SALE SECTION 36-T1N-R14W, BEAVERHEAD COUNTY

JEFF COLLINS, Soil Scientist
February 9, 2006

Proposal Summary:

Proposal is to harvest up to 790 MBF of timber from approximately 106 acres. This is a short duration project where roads would be constructed and stabilized promptly after use. Primary access is along existing range roads used in the 1987 harvest. All proposed timber harvest units and road locations were reviewed to assess soils for limitations and design appropriate mitigation measures.

Existing Conditions:

The Toomey Two sale area is located on moderate slopes with soils weathering from coarse granitics and valley fill deposits of the Boulder Batholith. Bedrock and boulders are common at shallow depth, mainly along ridges and convex slopes. No especially unique or unstable geology/soils occur in the proposed harvest areas.

Forested sites are predominately on northerly aspects with mixed sagebrush range on dryer ridgelines and southerly aspects. Primary forest soils have moderate depth (4-10") topsoils over coarse, gravelly loamy sand subsoils. These soils are well-drained, tend to be droughty, and have a long season of use. Soils are erosive but risk is moderate on the gentle slopes proposed for harvest. Soils can be easily disturbed. Compaction risk is moderate to low. Scarification should be light to avoid displacing the topsoil, which retains the most fertility and moisture important for seedling growth.

Swales and isolated wetlands within the section typically have deeper sandy clay rich soils that are subject to rutting if operated on and would be avoided by traffic.

Existing roads are well drained, stable and revegetated from the previous harvest in 1987. The harvest sites are well regenerated to lodgepole. Harvest effects were monitored in 1988 and soil effects were an average of 12.6% detrimental soil impacts mainly as soil displacement. No erosion was noted and soil conditions important to growth were maintained and no cumulative effects occurred.

Harvest Effects of the Proposed Action:

Primary soil concerns are potential rutting, and excessive surface disturbance with harvest operations and site preparation. Planned ground skidding operations and temporary road construction would have moderate to low direct, in-direct and cumulative impacts. 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 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. 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 would provide shade to enhance survival of seedlings and provide protection from animal use.

Roads are generally well located to access timber while avoiding wet areas and rock outcrops. Proposed roads are shallow excavation but may bring up rough boulders that make the roads difficult to grade, slow and bumpy. Several passes across road surface with dozers would help break down the larger rock. The proposed roads would be easy to stabilize and revegetated similar to the existing road conditions.

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 would 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 would 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 would 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. On this gentle ground, slash distributed on trails or temporary roads would be adequate to control erosion and prevent unauthorized use.

Weed Management: No noxious weeds were observed. Spots of knapweed on the access road were previously treated. 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 were 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#

ATTACHMENT C

WATERSHED AND FISHERIES ASSESSMENT PROPOSED TOOMEY TWO TIMBER SALE

GARY FRANK, Resource Mgmt Section Supervisor, FMB
February 21, 2006

Affected Watershed

The proposed Toomey Two Timber Sale is located within a single parcel of State land (Section 36 Township 1 North, Range 14 West) that is located in the Toomey Creek watershed situated in the West Pioneer Mountains of Beaverhead County. Toomey Creek is a 3rd order perennial tributary to the Big Hole River within the Missouri River Basin. Toomey Creek drains a watershed area of approximately 6780 acres. The mainstem stream channel of Toomey Creek is not located within the State parcel or within the immediate vicinity of any of the proposed road construction or existing road proposed for use for access and hauling. The proposed harvest area does contain several isolated wetlands, springs and discontinuous unnamed segments of Class II and Class III streams. While USGS maps of the area indicate that these streams as tributaries to Toomey Creek, all stream segments within the State section are isolated and do not have continuous or direct channel delivery to Toomey Creek.

The proposed haul route would also utilize an existing road located on private land in the Squaw Creek drainage. This segment of road does not contain stream crossings and is not located in an area with direct delivery to stream channels.

The Big Hole River and its tributaries, including Toomey Creek, are classified as A-1 in the Montana Surface Water Quality Standards (ARM 17.30.610(1)(d)). Waters classified A-1 are suitable for drinking, culinary and food processing purposes after conventional treatment for removal of naturally present impurities. Water quality must also be suitable for bathing, swimming and recreation; growth and propagation of salmonid fishes, and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply (ARM 17.30.622(1&2)). Among other criteria for A-1 waters, no increases are allowed above naturally occurring concentrations of sediment, which will or are likely to create a nuisance or renders the waters harmful, detrimental or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife (ARM 17.30.622(3)(f)).

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 Toomey Creek include include: cold-water fisheries, irrigation, and livestock watering. Toomey Creek has not been identified on the State's 303(d) list of impaired bodies of water in need of TMDL development (MTDEQ 2004).

Toomey Creek supports a known cold-water fishery. Species present include brook trout, mottled sculpin and westslope cutthroat trout (WCT). Recent fisheries surveys indicate that abundance of brook trout is common, mottle sculpin unknown and WCT are rare (MFISH 2005). Fisheries surveys completed by the U.S. Forest Service in 2002 yielded only a few WCT. The WCT are thought to potentially genetically altered from hybridization (Kujala 2005).

There are no streams supporting a cold-water fishery within the immediate timber sale project area. The segment of Toomey Creek supporting a fishery is located approximately 0.4 miles down slope of the proposed harvest area. However, there is no direct surface delivery of channel flow to Toomey Creek.

Existing Conditions

Based on analysis of aerial photos the density of existing roads and level of existing timber harvest in the watershed appear to be low. Road densities are approximately 0.3 miles of road per square mile of watershed area. Approximately 76% of the watershed area is forested and approximately 5% of the watershed area appears to have been harvested in the recent past (over the last 45 years). These levels of activity are well below the levels of forest management that are normally associated with detrimental increases in water yield and sediment yield. Therefore, it is unlikely that there are measurable cumulative effects on stream flow regimes (water yield, magnitude, and duration of peak flows) and sediment yield due to forest road construction and timber harvesting in the Toomey Creek watershed.

The existing road system on the State section contains high standard roads used to access and haul timber during a previous State timber sale, and lower standard roads used for grazing management and unauthorized hunter traffic. While some segments of the lower standard road do not meet BMP's, they do not appear to be impacting water quality due to erosion and direct delivery of sediment. The proposed haul route would utilize an existing road located on private land in the Squaw Creek drainage. This segment of road does not contain stream crossing and is not located in an area with direct delivery to stream channels.

Channel surveys completed in Toomey Creek by the USFS in 1994 and 2005 found Toomey Creek to have poor channel stability and high erosion potential. The reaches inventoried are located immediately adjacent and upstream of the State section. Based on these inventories the existing impacts to Toomey Creek appear to be primarily associated with historic and current livestock grazing. The levels of streambank alteration were noted as being excess of those recommended by Beaverhead National Forest riparian guidelines (USFS 2005).

Grazing practices and heavy big game use have also caused detrimental impacts to the ephemeral draws, wet areas and isolated segments of stream channel within the proposed project area on the State section. All 640 acres of the State section are currently under a 10- year grazing lease for 135 animal unit months (AUMs). Streambank and wetland trampling and subsequent erosion have lead to increased levels of in-stream sedimentation on the State section. While these impacts are occurring within the proposed project area, they do not appear to be impacting downstream water quality or downstream beneficial uses due to the discontinuous nature of drainage features occurring within the proposed project area.

Environmental Effects of the Proposed Actions

The proposed timber harvest activities would result in harvest of approximately 790 MBF from 6 harvest units totaling approximately 106 acres in size, and approximately 0.1 miles of new road construction, 1150 feet of minor road reconstruction (minor re-shaping of road surface) and minor improvements to approximately 1000 feet of existing road. Minor improvements would consist of adding additional road surface drainage features where needed. A majority of the existing road would be used without any reconstruction or improvements. All of these proposed activities are located in the Toomey Creek watershed. No new stream or reconstructed stream crossing are proposed. The proposed haul route would utilize an existing road located on private land in the Squaw Creek drainage. This segment of road does not contain stream crossings and is not located in an area with direct delivery to stream channels. No new road construction or reconstruction is proposed in the Squaw Creek drainage.

Harvest activities would occur on gentle to moderate slopes ranging from 5 to 30%. Several springs, wet areas, ephemeral draws and isolated segments of Class II and Class III stream channels are located within or immediately adjacent to the proposed harvest areas. All segments of discontinuous stream, wetlands and well-defined ephemeral draws would either be excluded from timber harvest, have SMZ delineated or would incorporate equipment restrictions to prevent excessive levels of soil disturbance and erosion. There are no streams with continuous surface delivery to Toomey Creek or

other downstream water resources located within or immediately adjacent to the proposed harvest units.

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 new or reconstructed stream crossings are included in the proposal. The existing roads that are proposed for access and hauling are not currently contributing direct sediment delivery to streams and the proposed use is not expected to cause direct sediment delivery to streams. No direct or indirect impacts to water quality or downstream beneficial uses, including the cold-water fisheries, in Toomey Creek are anticipated.

The proposed levels of timber harvest 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 due to bank destabilization and in-stream sedimentation resulting from the proposed actions. No cumulative impacts to water quality or beneficial uses in Toomey Creek or Squaw Creek are expected to result from the proposed actions.

Literature Cited

Kujala, Steven. 2005. Personal conversation. U.S. Forest Service, Beaverhead-Deerlodge National Forest, Dillon, MT.

MFISH (Montana Fisheries Information System). 2005. Montana Fish, Wildlife and Parks and Natural Resource Information System. Helena, MT.

MTDEQ (Montana Department of Environmental Quality). 2004. Montana 2004 305(b) Report. Helena, MT.

USDA. 2005. Unpublished Report. Stream Channel Condition Survey – Toomey Creek. Beaverhead-Deerlodge National Forest, Dillon, MT.

ATTACHMENT D

CHECKLIST FOR ENDANGERED, THREATENED AND SENSITIVE SPECIES 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)
<p>Bald Eagle (<i>Haliaeetus leucocephalus</i>) Habitat: late-successional forest <1 mile from open water</p>	<p>[N] Bald Eagles have been documented within the quarter latilong (L36B) that encompasses the proposed project area but not within the proposed project area (Skaar 1996, MNHP 2003). There would be no potential to affect any nesting habitat as the proposed period of harvest activity (October 1 – December 15) would not occur during the nesting season, and the proposed harvest units are ~1 mile or more from the Big Hole River and likely occur outside of any Bald Eagle nesting home range. No direct, indirect or cumulative effects to Bald Eagles associated with this project are anticipated.</p>
<p>Gray Wolf (<i>Canis lupus</i>) Habitat: ample big game pops., security from human activity</p>	<p>[N] The proposed project area falls within the Central Idaho Nonessential Experimental Area for gray wolves. The nearest pack is the Battlefield pack ~20 miles to the southwest. 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.</p>
<p>Grizzly Bear (<i>Ursus arctos</i>) Habitat: recovery areas, security from human activity</p>	<p>[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 ~90 miles southeast of the project area. Grizzly bear use of the Pioneer 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 the tributaries of Toomey Creek but these tributaries support relatively low levels of hiding cover. Human access levels are presently low to moderate due to FWP block management access. New road construction and reconstruction 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>

<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. The majority of the habitat, approximately 96%, would be categorized as "other" and "temporary non" habitat. There are ~28 acres of scattered young foraging habitat, and no mature foraging or denning habitat, within the State parcel. Of the ~339 acres of potential lynx habitat (other and young foraging) on the State parcel, ~106 acres of "other" habitat are proposed for harvest and would be converted to temporary non-habitat. No young foraging habitat is present within the proposed harvest units. Preferred 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>
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<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 been documented within the quarter latilong (L36B) that encompasses the proposed project area but not within the proposed project area (Skaar 1996, MNHP 2003). The parcel involved in the proposed project maintains an elevation of 6100-6500 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 been documented within the quarter latilong (L36B) that encompasses the proposed project area but not within 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 been documented within the quarter latilong (L36B) that encompasses the proposed project area but not within 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 (L36B) 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 (L36B) 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 (L36B) 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 been documented in the quarter latilong (L36B) that encompasses the proposed project area but not within the proposed project area (Skaar 1996, MNHP 2003). No sage grouse leks are known to occur within the proposed project area (C. Fager, FWP, Pers. Comm. February 2006). 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.

Montana Natural Heritage Program

Map Label	Scientific Name	Common Name
1	<i>Thymallus arcticus montanus</i>	Montana Arctic Grayling

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

Element Subnational ID	11509	EO Number	4	Global Rank	G5T1Q	State Rank	S1
USFWS Endangered Species Status	C	Forest Service Status		BLM Status		SPECIAL STATUS	

Observation Dates: Last 1999 First 1977

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 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, Lamarche Creek, Fishtrap Creek and Deep Creek.

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

References
Byorth, P. A. 1995. Big Hole River arctic grayling recovery project: annual monitoring report 1994. Unpublished report submitted to the Fluvial Arctic Grayling Workgroup. Montana Department of Fish, Wildlife and Parks, Dillon. 38 pp.
Gilpin, M. 1996. A population viability analysis (PVA) of the Arctic grayling in southwestern Montana. Unpubl. report to MT Dept. Fish Wildl. Parks. 16 pp.
Hunter, C. (ed.). 1995. Proceedings of the first joint meeting of the Montana/North Dakota pallid workgroup and the fluvial arctic grayling workgroup. 18-19 January 1995, Bozeman, MT. 118 pp.
Kaya, C. M. 1990. Status report on fluvial arctic grayling (THYMALLUS ARCTICUS) in Montana. [Unpublished report.] Montana Department of Fish, Wildlife, and Parks. Helena, MT. 97 pp.
Montana Department of Fish, Wildlife, and Parks. No date. Montana Interagency Stream Database. Computerized database (also available on microfiche). Montana Department of Fish, Wildlife, and Parks, Helena, MT.
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.
Montana Fluvial Arctic Grayling Workgroup. 1995. Montana fluvial arctic grayling restoration plan: final draft. Montana Department of Fish, Wildlife, and Parks, Helena. 21 pp.

Specimen

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

Size (acres): Observed

EO Rep. Size (acres): 8855.21

Min. Elevation (feet) 4,600

Max. Elevation (feet) 7,300

County Beaverhead, Deer Lodge, Madison, Silver Bow

Land Owner/Manager BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISDOM RANGER DISTRICT, BIG HOLE NATIONAL BATTLEFIELD, BLM: DILLON FIELD OFFICE, MONTANA LAND RELIANCE - CONSERVATION EASEMENTS, PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE), STATE TRUST LAND, THE NATURE CONSERVANCY - CONSERVATION EASEMENTS

Montana Natural Heritage Program

Map Label	Scientific Name	Common Name
2	<i>Penstemon lemhiensis</i>	Lemhi Beardtongue

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

Element Subnational ID	12440	EO Number	49	Global Rank	G3	State Rank	S2
USFWS Endangered Species Status		Forest Service Status			SENSITIVE	BLM Status	SENSITIVE

Observation Dates: Last 1996-08 First 1993-07-28

EO Data 1996: Total 37 subpopulations (subpopulations in Section 18 not surveyed), approximately 538 rosettes, 0.5% flowering, 65% fruiting, 34.5% vegetative. 1994: New eastern subpopulation (Section 18) with approximately 20 plants, 60% flowering, 40% vegetative. 1993: Subpopulations in Section 26 and 18: (26) 215 plants, 95% flowering, 5% vegetative; (18) 84 plants, 90% flowering, 10% vegetative.

General Description Open, dry lower slope to upper slope, alluvial terrace breaklands. Granite parent material, sandy loam soil. Associated species: *Artemisia tridentata*, *A. frigida*, *Chrysothamnus nauseosus*, *C. viscidiflorus*, *Eriogonum umbellatum*, *E. ovalifolium*, *Agropyron spicatum*, *Festuca idahoensis*, *Stipa comata*, *S. richardsonii*, *Lupinus sericeus*, *Aster stenomerus* and *Tragopogon dubius*.

General Comments

References Carver, Quinn. 1993. Plant Species of Special Concern Survey Form.
Rogers, Kari. 1996. Plant Species of Special Concern Survey Form.
Shelly, J. Stephen. 1995. Personal communication to the Montana Natural Heritage Program regarding 1994 plant EORs.

Specimen LESICA, P. (6358). 1994. MONTU.

Representation Accuracy	High (>80%, <=95%)		
Size (acres): Observed	2,000	EO Rep. Size (acres):	106.265
Min. Elevation (feet)	5,880	Max. Elevation (feet)	6,680
County	Beaverhead, Deer Lodge		
Land Owner/Manager	BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISDOM RANGER DISTRICT, BEAVERHEAD-DEERLODGE NATIONAL FORESTS, WISE RIVER RANGER DISTRICT, BLM: BUTTE FIELD OFFICE, BLM: DILLON FIELD OFFICE		

Montana Natural Heritage Program

Map Label	Scientific Name	Common Name
3	Felis lynx	Lynx

Biological Information **Species of Concern (Y)/Potential Concern (W): Y**

Element Subnational ID	13134	EO Number	450	Global Rank	G5	State Rank	S3
USFWS Endangered Species Status	PS:LT	Forest Service Status			THREATENED	BLM Status	SPECIAL STATUS

Observation Dates: Last First

EO Data

General Description

General Comments

References

Specimen

Representation Accuracy

Size (acres): Observed

EO Rep. Size (acres): 2249426

Min. Elevation (feet) 1,870

Max. Elevation (feet) 11,187

County Beaverhead, Carbon, Cascade, Deer Lodge, Flathead, Gallatin, Glacier, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Park, Pondera, Powell, Ravalli, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Wheatland

Land Owner/Manager

Montana Natural Heritage Program

Map Label	Scientific Name	Common Name
4	<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 This large statewide multi-part principle Element Occurrence represents all 1359 lek locations across the state, each with a four mile radius feeding/nesting use area.

General Description This principle EO encompasses all mapped lek locations and includes a four mile surrounding buffer of sagebrush habitat to account for nesting and foraging at each location. Nest-lek distances vary with quality and availability of appropriate habitat. The four mile buffer may not account for all nests associated with lek location.

General Comments

References

Specimen



Report 1 of 1
Select Form

Map Waterbody

Toomey Creek Tributary Of: Big Hole River

Total Length (Mi): 6.5

Report is based on River Miles(rm): (0.0 to 6.5)

View list of tributaries to the Toomey 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 6.5)	3 / Central	Trout Water

Fish Species Present

Species	Abundance	Water Use	Data Quality
Brook Trout			
From (rm 0.0) to (rm 6.5)	Common	Year-round resident	Extrapolated based on surveys
Mottled Sculpin			
From (rm 0.0) to (rm 6.5)	Unknown	Year-round resident	Extrapolated based on surveys
Surveyed; no fish captured			
From (rm 0.0) to (rm 6.5)	Not Applicable	Not Applicable	Extrapolated based on surveys
Westslope Cutthroat Trout			
From (rm 2.5) to (rm 4.6)	Rare	Year-round resident	Extrapolated based on extensive samples

Population Trend Data

From (rm 1.6) to (rm 1.7) Section Name: ABOVE FS BOUNDARY

Date: 6/16/1987 Collector: Shepard, Brad

Species	Method	Length-(Min-Max(In))	DQR	Total	Units
Brook Trout	Two pass	2.5-7.5	Good quality	28	per section length

From (rm 4.1) to (rm 4.2)

Date: 9/15/1995 Collector: Roberts, Bruce

Species	Method	Length-(Min-Max(In))	DQR	Total	Units
Surveyed; no fish captured	One pass	N/A-N/A	Medium quality	0	per section length

Genetics

Genetic sampling not collected on this stream.

Angling Use - Days Per Year

From (rm 0.0) to (rm 6.5)

Year	Total			Resident			Non Resident			Ranking	
	Press.	s.d.	Trips	Press.	s.d.	Trips	Press.	s.d.	Trips	State	Region
1995	131	131	3	131	131	3	0	0	0	899	188

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 6.5)	Habitat	Sport	Final Value
	Class	Class	
	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

References

No References Available

ATTACHMENT F

Vegetative Analysis/Stand Prescription Toomey Two Timber Sale

Forest Vegetation:

The State parcel is located on the northwest side of the Pioneer Mountains along the forest/grassland interface within the Toomey Creek watershed. Adjacent ownership to the south and east is the Beaverhead-Deerlodge National Forest, to the northwest is BLM and to the north and west is private. Slopes range from 5-35% with an elevation of 6100-6500 feet. The State parcel has 640 acres of which ~417 acres are forested and was harvested approximately 20 years ago, removing 1354 MBF from 124 acres. Approximately 208 acres were harvested in the Toomey Creek and Squaw Creek watersheds on the adjacent private lands 20-25 years ago. The majority of all the harvested acres have regenerated with moderate to heavy 8-15' lodgepole pine growth. A pre-commercial thinning of ~60 acres in the old regenerated harvest units is scheduled for the State parcel over the next five years. There are 5,153 forested acres within the Toomey Creek watershed with ~265 acres (5.1%) having been logged in the last 50 years. Aspen stands are being overtaken by conifer encroachment. 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.

Forested stands within the State parcel occur on northerly aspects and are predominately even aged, single story lodgepole pine cover type. Stand structure is a result of a stand replacing fire that occurred approximately 120 years ago. Subalpine fir is the indicated climax species and 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. Stand composition ranges from dense mature forest to heavily overstocked and near stagnant forest. Regeneration is sparse within untreated stands with moderate understory vegetation and coarse woody debris.

Douglas-fir is indicated as a climax species on the drier slopes with Douglas-fir/Pine Grass (*Psme/Caru*) as the habitat type. These stands are comprised of moderately to densely stocked forest. Regeneration is sparse within untreated stands with moderate understory vegetation and coarse woody debris. Older Douglas-fir trees (>150 years) occur in most of the stands as scattered individual trees. The south half of unit 6 is comprised of a mix of lodgepole pine and Douglas-fir.

Dominant tree heights: 60-70', co-dominants: 50-60'. Age: 110 to 120 years (LP) and 120 to 200 years (DF). Yield capability: 45-55 cu. ft/ac/yr. Common understory species include: elk sedge, pine grass, grouse whortleberry, dwarf huckleberry and kinnikinnick. The predominate management activity is grazing.

The proposed harvest represents 2.0% of the total forested acres within the Toomey Creek watershed. Harvesting an estimated 790 MBF of timber would alter the forest cover on approximately 106 acres. Harvest design is intended to maintain a semblance of historic conditions while promoting forest health, productivity and aspen restoration by reducing overstocking through the emulation of mixed severity and stand replacing fires.

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

Cumulative Effects

The No Action alternative would leave all vegetation undisturbed. Over time forest encroachment would continue to occur and forest patches would expand into native rangeland. The risk of fire and additional

insect and disease infestation in overstocked and suppressed stands would continue to increase.

The Action alternative of harvesting 106 acres would alter 25% of the forested acres on the State tract. Stand treatments would reduce the risk of fire and additional insect and disease infestation while aiding in the restoration of encroachment threatened aspen stands. Data summaries (Losensky 1997) for Beaverhead and Madison Counties were compared with the inventory of State forested lands and anticipated changes under the Action alternative. The data comparison indicates that for either alternative, the forested stands for all cover types on the State lands post-harvest would maintain more total forest cover than in prior historical conditions.

Fire History/Ecology:

Stands within the project area fall into fire group seven (Fischer and Clayton 1983) where periodic wildfires tended to recycle the stands before any significant amount of mature lodgepole pine dies out. Lodgepole pine habitats in this elevation range rely on fire to perpetuate and renew the stand with stand-replacing fires playing a large role. The mean fire interval ranges from less than 100 years to 500 years. Low to moderately severe fires may thin the stands periodically in between stand-replacing fires. Fuel loadings are typically 15 tons/acre but can easily exceed this (Fischer and Clayton 1983). Stands >80 years old are more susceptible to severe fire damage due to over crowding and insect and disease infestations. A severe fire burned through the proposed project area approximately 120 years ago.

Cumulative Effects

The No Action alternative would result in no appreciable change in the forest cover types or stand structures in the near term. Current successional patterns would continue. The stands would continue to be dominated by lodgepole pine, with a gradual trend to increase the number of more shade tolerant species, such as Douglas-fir, subalpine fir and spruce, in the understory. Tree mortality from potential insect and disease infestations would contribute to site factors that would be conducive to stand replacement fires. Such an event would likely revert the forest stands back to a grassland-sage cover type with a few scattered old Douglas-fir remnant trees that would have survived due to micro-site conditions or location.

The Action alternative would change the classification of forest types for the short term due to the removal of lodgepole pine and leaving the larger, scattered Douglas-fir. Harvest treatments for all units would be primarily regeneration harvests focusing on developing a younger, more vigorous stand of lodgepole pine in the future. These treatments scattered across a landscape would emulate small-scale, moderate to severe disturbance events. Harvest treatments would reduce the likelihood of larger scale stand replacement events from occurring by reducing the fuel loads of the treated stands and reducing stand susceptibility to additional insect and disease infestations. Minor cumulative effects of shifts in age class distribution would be expected at the watershed level.

Insect and Disease:

All lodgepole pine stands are infected with Dwarf mistletoe, which can reduce height growth, stand volume, seed production and tree vigor. Mistletoe is moderate to high in Unit 4 with the remainder of the units exhibiting moderate infestations. High stand densities have elevated the risk of more serious insect and disease outbreak. Younger, more open stands where tree growth and vigor is encouraged are more resistant to insect and disease infestations.

Cumulative Effects

Under the No Action alternative stands would be susceptible to continued insect and disease infestations due to overstocked and suppressed conditions.

The Action alternative would reduce the potential of infestation in the harvested units by encouraging the

development of young, vigorous stands. Younger stands where tree growth and vigor is encouraged are more resistant to insect and disease infestations.

Successional Stages:

The proposed project area falls under climatic section 13 (Section M332E) (Losensky 1997), which encompasses the southwest corner of Montana and the upper Salmon and Lemhi drainages of Idaho, and includes Beaverhead and Madison Counties. In this climatic section, forested cover types were historically found on about 39% of the area, with the remainder being grassland and shrubland. At the turn of the century, 10% of the timber in the climatic section and 19% of the Beaverhead and Madison County timber was old forest >150 years old.

Current forest inventory data on State lands in the Beaverhead and Madison Counties can be used to compare the current age structure of each forest cover type to Losensky's evaluation of conditions that existed in 1900. A complete stand level inventory of all the forested State lands in Beaverhead or Madison County is presently not available. An estimate of age structure is available on approximately 67% of the forested State lands. However, the data available is on the majority of lands that have potential for timber harvest activity and therefore would tend to represent stands that have had human disturbance during the last century and consequently younger age classes are likely represented. Comparison of the data indicates the current age structure of the forested State lands is substantially older than would be expected from Losensky's data. Currently approximately 59% of the forested stands on State lands are greater than 100 years of age. Also, there is currently a greater than expected percentage (39%) of old stands on State land when compared to the historic estimate of 19% on all lands in 1900. High representation of old stands is consistent with the belief that modern fire suppression policies have limited the natural disturbance role played by fire in this region and that human caused disturbances have not approached historic levels of disturbance.

Cumulative Effects

The No Action alternative would result in continued succession toward a climax vegetation condition unless fire or other disturbance intervened to move succession back to the non-stocked and seedling/sapling stage.

The Action alternative would move 106 acres of mature lodgepole pine cover types, distributed over 6 units, to younger successional lodgepole pine cover types. By removing the mature age classes, the current age structure of the stands would be converted to a younger age structure. A series of regeneration harvests would create different stages of growth and succession allowing for a distribution in age classes while leaving a mosaic on the landscape that contributes to forest diversity.

Old Growth:

The Forest Management Rules state that DNRC shall manage old growth to meet biodiversity and fiduciary objectives, and shall consider the role of all stand age classes in the maintenance of biodiversity when designing harvests and other activities. In the Rules, DNRC defines old growth as: forest stands that meet or exceed the minimum number, size, and age of those large trees as noted in "Old-Growth Forest Types of the Northern Region" by P. Green, J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann (1992, USFS Northern Region, internal report).

Two small stands of Douglas-fir (<10 acres) that would meet the minimum criteria for old growth occur within the State parcel but are not part of the proposed harvest units. No old growth stands are proposed for harvest under this proposed project.

Cumulative Effects

The No Action alternative would result in no appreciable change in older stands and the present high

representation of older trees over historic levels would continue.

The Action alternative would result in no appreciable change in older stands and the present high representation of older trees over historic levels would continue.

Fragmentation and Corridors:

The abundance of lodgepole pine habitats and scarcity of old trees found in the proposed project area indicates that stands were likely influenced by periodic moderate to severe intensity wildfire events historically. Stands were recycled before any significant amount of mature trees could die out. The presence and absence of forest and non-forest patches would have been dynamic, shifting through time. Periodically, sites where conifers presently occur would have appeared more as non-forest meadows than forest.

Serotinous cones, and surviving individual trees and clumps of trees in cool areas served as seed sources that would have promoted the periodic regeneration of young-aged stands that may or may not have survived subsequent fire events. Historic fires, climate, vegetative manipulation and land forms have contributed to the existing patchy distribution forest habitat. Existing forest cover is predominately located in broken, foothill habitats and generally exhibits a low level of habitat connectivity to the north, south and west of the proposed project area.

Cumulative Effects

Under the No Action alternative, habitat conditions would not change in the near term from their current condition. Forested habitat patches within the proposed project area would remain at their current size and shape and offer the greatest level of habitat security and lower proportional amounts of edge habitat. Wildlife species adapted to use larger patches of mature forest would be expected to benefit from this alternative. Over time, influences of forest succession would be expected to decrease habitat availability for species that are adapted to thrive in open forest and edge habitats, or for those that use such habitats for meeting their life requisites.

Under the Action alternative, there would be no human development that would decrease linkage value and proposed activities would not impede wildlife movements across the landscape, valley or mountain ranges. The proposed project would harvest a total of 106 acres, over six harvest units, and increase the amount of non-forest in the area for the short term. Species of wildlife preferring less dense forest conditions would benefit from the creation of additional habitat, whereas species adversely affected by decreased forest density would not. Due to the size of the proposed harvest units and small number of acres harvested, expected effects would be minor. Endemic species that occur in this area would likely not be affected appreciably, as most likely evolved with naturally fragmented forest conditions, created by natural disturbance events. The proposed 0.1 miles of temporary road construction would have minimal expected adverse impact on fragmentation of habitat or increases in human activity as it would be physically obstructed and effectively closed upon project completion. Cumulative effects related to the proposed road construction and reconstruction in the proposed project area would be minimal due to the small area affected and closure that is planned upon project completion. Average patch size of existing forested acreage would be reduced within the proposed project area. Stand density and forest canopy structure within the proposed harvest units would be reduced dramatically. Cumulative fragmentation effects associated with the proposed project would be minor at the landscape level due to the size of the proposed project and the low probability of adjacent ownerships conducting additional vegetative manipulation within the proposed project area. No known wildlife corridors of notable importance would be affected by the proposed activities.

Noxious Weeds:

A small infestation of spotted knapweed (<1/10 acre) was found and treated on the State tract in 2005. Post treatment monitoring will be performed to insure infestation has been eradicated. No other noxious weed infestations have been detected on the State parcel.

Cumulative Effects

Under the No Action alternative, noxious weeds could become established on existing roads and onto dry vegetation sites by vehicle or animal use.

The Action alternative would involve ground-disturbing activities that have the potential to introduce or spread noxious weeds in susceptible habitat types. An Integrated Weed Management (IWM) approach, combined with prevention and revegetation, is considered the most effective weed management treatment. To reduce the possible introduction and spread of weeds associated with this proposed project, the following mitigation measures would be implemented:

Soil scarification would be kept to a minimum to limit potential noxious weed impacts. All newly disturbed soils on road cuts and fills and obliteration measures would be promptly seeded to site adapted grasses. All road construction and logging equipment would be power washed and inspected prior to being brought on site. DNRC would monitor the project area for two years after the completion of the harvest activities to identify if noxious weeds occur on the site. If noxious weeds do occur, a weed treatment plan would be developed and implemented.

Transportation/Roads:

The existing road access begins at the Christensen Ranch and proceeds east through the ranch to State Section 36-T1N-R14W. Segments of this road have inadequate drainage and would be improved to reduce erosion, sediment delivery and provide adequate drainage to meet BMP's. Existing roads on State lands are primary logging roads and more primitive two-track, range type roads that historically have been used for ranching purposes and during the hunting season. All roads on State lands within the proposed project area are administratively closed to motorized vehicle use for recreational purposes. Roads on adjacent ownerships may be open, have seasonal restrictions or closed to motorized use.

Cumulative Effects

Under the No Action alternative, roads would remain in their present conditions. Lower standard roads not meeting BMP's would continue to degrade due to erosion.

The Action alternative would construct ~0.15 miles of temporary, minimum standard road and reconstruct ~0.2 miles of primitive two-track. Standard drainage features would be implemented to stabilize roads and control erosion concurrent with the proposed operations. After completion of harvest, temporary roads would be closed with long-term drainage features installed, effectively closed with slash and debris and reseeded with site-adapted grass. This closure process would result in no net increase of open roads in the area. Selected segments of the existing access road would be improved through implementation of mitigation measures. The primary access road on the State parcel would have an existing barrier reconstructed to prevent motorized vehicle use. The existing roads on State lands would remain administratively closed to motorized vehicle use for recreational purposes to meet departmental management objectives for resource protection and assist with FWP management goals.

Stand Prescriptions:

Treatments would target shade intolerant species for removal and overall stand density reduction. Older, large shade tolerant trees would be harvested to cull out defective or damaged trees, where applicable. Large live trees, live cull trees, snags, cull snags, and coarse woody debris and fine materials would be protected and retained in sufficient quantities where applicable. Submerchantable trees and shrubs would be protected and retained for visual screening.

Severity of stand conditions would dictate harvest method used, emulating moderately severe ground fire to stand replacing fire. Harvest prescription would reduce overstocking, fire hazard, and additional insect

and disease; open the stands to encourage natural regeneration of shade intolerant species; maintain a lodgepole pine cover type (and Douglas-fir cover type where applicable) while bringing the stands back to a more historic condition; and promote existing aspen stands.

Aspen Areas - A regeneration harvest of all conifer sawtimber would be used to reduce conifer encroachment into aspen stands and promote aspen regeneration. 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.

Unit 1 (11.5 ac/80 MBF), Unit 2 (18 ac/120 MBF) and Unit 3 (9.5 ac/75 MBF): Units are composed of lodgepole pine with an occasional, large Douglas-fir scattered within the stand. Some small pockets of aspen are found along moister sites and riparian areas. Lodgepole pine sawtimber size ranges from small to medium. The stands is overstocked and suppressed. Light to moderate infestations of mistletoe are found throughout the stands.

A regeneration harvest would remove all merchantable lodgepole pine sawtimber and all conifers within 75-100' of aspen colonies for aspen restoration. Douglas-fir <30" dbh would be harvested only if it is defective, damaged or within 75-100' of aspen colonies. One large snag or snag recruit (≥ 21 " dbh) per acre would be left where available.

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 years after harvest.

Unit 4 (21 ac/180 MBF): Unit is composed of lodgepole pine with some scattered large Douglas-fir. Some small pockets of aspen are found along moister sites and riparian areas. Lodgepole pine sawtimber size ranges from small to medium. The stand is overstocked and suppressed. Moderate to heavy infestations of mistletoe are found throughout the stand.

A regeneration harvest would remove all merchantable lodgepole pine sawtimber and all conifers within 75-100' of aspen colonies for aspen restoration. Douglas-fir <30" dbh would be harvested only if it is defective, damaged or within 75-100' of aspen colonies. One large snag or snag recruit (≥ 21 " dbh) per acre would be left where available.

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 years after harvest.

Unit 5 (22 ac/170 MBF): Unit is composed of lodgepole pine with small pockets and scattered Douglas-fir. Some small pockets of aspen are found along moister sites and riparian areas. Sawtimber size ranges from small to medium. The stand is overstocked and suppressed. Light to moderate infestations of mistletoe are found throughout the stand.

A regeneration harvest would remove all merchantable lodgepole pine sawtimber and all conifers within 75-100' of aspen colonies for aspen restoration. Douglas-fir <30" dbh would be harvested only if it is defective, damaged or within 75-100' of aspen colonies. One large snag or snag recruit (≥ 21 " dbh) per acre would be left where available.

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 years after harvest.

Unit 6 (24 ac/165 MBF): Unit is composed of lodgepole pine with a few scattered Douglas-fir in the north half of the unit and a mix of lodgepole pine and Douglas-fir in the south half of the unit. Some small pockets of aspen are found along moister sites and riparian areas. Lodgepole pine sawtimber size ranges

from small to medium and Douglas-fir from small to large. The stand is overstocked and suppressed. Light to moderate infestations of mistletoe are found throughout the stand.

A regeneration harvest would remove all merchantable lodgepole pine sawtimber in the unit and all conifers within 75-100' of aspen colonies for aspen restoration. Douglas-fir <30" dbh would be harvested in the north half of the unit only if it is defective, damaged or within 75-100' of aspen colonies.

Group selection and selection harvests for would be utilized in the south half of the unit for Douglas-fir <30" dbh, removing up to ~50% of the merchantable Douglas-fir sawtimber. Desirable dominate/co-dominant trees would be left for seed source. One large snag or snag recruit (≥ 21 " dbh) per acre would be left where available.

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 years after harvest.

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.

Literature Cited

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Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992. Old growth Forest Types of the Northern Region. USDA Forest Service R-1 SES 4/92. Missoula, MT.

Losensky, J.B. 1997. Historical vegetation of Montana. DNRC Intern. Rept. 100pp.

ATTACHMENT G

Elk Security and Vulnerability/Winter Range

The Pioneer Mountains are an isolated range that occurs in southwest Montana bordered by the Big Hole River for approximately two-thirds of its perimeter. The northwest portion of the Pioneer Mountains lie between the Big Hole River and Grasshopper Creek. This area is part of the FWP Pioneer Elk Management Unit (EMU) and includes Hunting District 332. Habitats found within Hunting District 332 range from grassland-sagebrush along foothills at lower elevations (~6,000 feet) to those at the highest elevations (up to ~9,400 feet) characterized by rocks, scree, whitebark pine and subalpine fir. The State parcel is located at the forested foothills along the forest/grassland interface. Primarily mature lodgepole pine forests dominate vegetation communities found at these lower elevations within the proposed project area. Lodgepole pine habitats in this elevation range rely on fire to perpetuate and renew the stand with stand-replacing fires playing a large role, especially at the landscape level. Old harvest units on private and State ownership that were cut 20-25 years ago have regenerated and now provide good hiding cover. A pre-commercial thinning of ~100 acres in the old regenerated harvest units is scheduled for the State parcel over the next five years.

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

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

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

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

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

Timber harvest can increase elk vulnerability by changing the size, structure, juxtaposition and accessibility of areas that provide security during hunting season (Hillis et al. 1991). As visibility and accessibility increase within forested landscapes, elk have a greater probability of being observed and subsequently harvested by hunters. Because the cow segment of the harvest is normally regulated carefully, primary concerns are related to substantial reduction of the bull segment and subsequent decrease in hunter opportunity. The presence of fewer mature bulls early in the hunting season reduces the odds of any given hunter to see or harvest such an animal throughout the remainder of the 6-week season. The forested stands within the State parcel and adjoining lands to the north, south and west do not meet the Hillis et al. (1991) definition of security cover, due to their small size and/or accessibility by motorized vehicles. To the east of the State parcel is the edge of a large, contiguous forested block that includes the upper portion of the Toomey Creek watershed. However, the forested patches in the proposed project area have value for hiding cover, which can serve to lower bull elk vulnerability. Retaining the greatest amounts of dense forest cover possible would pose the least risk of increasing elk vulnerability from present levels. The greater numbers of elk that use a particular area, the more important cover patches are as they serve to reduce vulnerability of a greater portion of animals.

Timber harvest can reduce cover on winter ranges that is important in providing thermal protection and areas of relatively low snow that help elk to escape from predators and avoid other disturbances with minimal expenditure of energy (FWP 1992). Additionally, harvest activities occurring when winter range is occupied could cause undue stress and disturbance to elk.

The proposed project area lies within FWP Hunting district 332 and it occurs in important winter habitat for elk, and is an important access and hunting destination for hunters (C. Fager, FWP, Letter, March 28, 2005). Within this Elk Management Unit, FWP has a stated habitat objective to... "Work with land management agencies to maintain fall elk security so that elk harvest is distributed throughout the season, with no more than 30% of the harvest of bulls occurring during the first week of the general season" (FWP 2004). This objective is stated to promote hunter opportunity, which is considered an important aspect of FWP's management goal for the Pioneer EMU (FWP 2004). Bull elk vulnerability and potential reductions in hunter opportunity are a concern expressed by FWP in this hunting district and the Pioneer EMU. 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 large scale stand-replacement wildfires. Additional reductions in hiding cover and/or security habitat may influence achievement of FWP's harvest goal for this Hunting District and EMU.

Terrain in the proposed project area is moderately open and gentle with moderate road densities allowing relatively easy access to motorized vehicles. FWP manages a Block Management area during general hunting season within the Toomey Creek/Squaw Creek watersheds utilizing the private access to the proposed project area. The State parcel is closed to motorized vehicles.

Effects on Elk Security and Vulnerability/Winter Range:

Under the No Action alternative, no immediate change from the present condition would occur. Hiding cover, access and winter range would remain essentially unchanged. Over time, and in the absence of wildfires, conifer cover would continue to mature and develop into dense forest, further increasing amounts of hiding cover and size of potential security blocks. Given available local information, selection of this alternative is presumed to provide the lowest risk of increasing elk vulnerability over the short term and over the long term (>20 years) in the absence of wildfires or other natural disturbance agents. Subsequently, it is expected that bull elk survival and hunter opportunity would have the least risk of being impacted under this alternative.

Under the Action alternative, ~ 106 acres of hiding/thermal cover would be altered, reducing that which would be available to elk during winter and the general hunting season. In conjunction with harvest activities, the proposed new road construction and reconstruction segments would be physically closed and the access barrier to the existing primary road to the State parcel would be reconstructed to minimize the potential for increased motorized access from existing levels. This would likely have a minor influence on mitigating elk vulnerability within the proposed project area, due to the high inherent accessibility of the open terrain.

Visual screening properties of hiding cover would change considerably in all harvest units. Following the proposed harvest, visual obstruction would be provided by smaller patches and stringers of mature and sub merchantable trees than the larger, dense patches, which currently exist in the proposed project area. Douglas-fir leave trees would be retained in a clumped distribution to minimize sight distance where opportunities exist. Mature forest could have hiding cover value reduced by up to 90% in most treated portions. Hiding cover value would likely be reduced by a similar proportion within the State parcel. Reducing 106 acres of hiding/thermal cover would represent a 2% cumulative reduction of forested acres within the Toomey Creek watershed. Low proportional increases in elk vulnerability and energy expenditures could be expected for elk that use this area during the winter and fall seasons.

Within the context of Hunting District 332 and the Pioneer EMU, cover removal associated with the proposed project would result in a minor adverse contribution to cumulative effects, but would be additive if other timber harvests occurred within these administrative boundaries on State trust lands and other ownerships. This could result to some degree, in increasing the difficulty that FWP could have in meeting their Elk Plan objective for maintaining bull harvest below 30% during the first week of the general big game hunting season. However, under their current management, federal lands within the Toomey Creek watershed, which comprise 88% of the forested acres, are not likely to be harvested unless a

major natural disturbance occurs, such as wildfire or insect and disease. Effects associated with this proposal would likely be difficult to detect in the population at the Hunting District level or over a broader cumulative acreage considered at the EMU scale. The risk of hunter harvest rate increases during the first week of the general hunting season would be present until recovery of hiding cover and/or security cover could occur. Recovery of forest cover in this area could take several decades, depending upon growing conditions of a site and the intensity of the treatment implemented.

The road use agreement with private ownership and the State to access the proposed project restricts use from ~April 1 – September 30. Harvest activities for the proposed project would occur from October 1 - December 15. The proposed harvest window does not conflict with elk winter range usage (C. Fager, FWP, Pers. Comm. December 2005). Any potential direct disturbance or displacement of elk due to harvest operations would be minor and of short duration (i.e., logging and road construction activity occurring within a three month period).

The access route to the proposed project area would require ~720 feet of new temporary, minimum standard road construction and ~1150 feet of existing road reconstruction. Open road densities are already moderate and cover capable of providing security is also moderate in this area. Elk that might use this area would likely have a greater potential for vulnerability if the route were to remain accessible. The actual extent of increase is uncertain as many factors can influence vulnerability (e.g. size, extent and juxtaposition of security areas and migration corridors; type, structure, amount and density of vegetation; road density; ease of human accessibility, hunting pressure, hunting regulations, and hunter behavior, etc.) (FWP 1992). Variations in weather conditions from year to year can also influence elk vulnerability. The new road construction and reconstruction would be effectively closed by placing slash and debris on the road surface. The existing primary road to the State parcel would have the access barrier reconstructed. By implementing mitigation efforts such as scattering slash/debris, barrier construction and seeding, motor vehicle travel on these routes would essentially be negated. Minimal cumulative influences on access would be anticipated following road closure efforts.

Literature Cited

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

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

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

MFWP 1992. Montana Elk Management Plan. Mont. Dept. Fish, Wildlife and Parks. Wildlife Division. Helena, MT. 170 pp.

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
SUN MOUNTAIN LUMBER, INC., DEER LODGE, MT
MONTANA WILDERNESS ASSOCIATION, HELENA, MT
MONTANA ACTION FOR ACCESS, RAMSAY, MT
ALLIANCE FOR THE WILD ROCKIES, MISSOULA, MT
MADISON RANGER DISTRICT, ENNIS, MT
BUREAU OF LAND MANAGEMENT, 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 & RONAN, 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
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
TED CHRISTENSEN, ANACONDA, MT
FISH, WILDLIFE, & PARKS, DILLON, MT
WISDOM RANGER DISTRICT, WISDOM, MT
ANACONDA SPORTSMAN, ANACONDA, MT
STAN FRASIER, HELENA, MT
THE NATURE CONSERVANCY, LIMA, MT
SOUTHWEST MT WILDLANDS ALLIANCE, BUTTE, MT
AMERICAN FISHERIES SOCIETY, BOZEMAN, MT