

## CATEGORICAL EXCLUSION DOCUMENTATION FOR DNRC FOREST MANAGEMENT ACTIVITY

Project Name: Shenon Salvage Timber Permit

Proposed Implementation Date: August 2010

Proponent: Dept. of Natural Resources and Conservation

Type and Purpose of Action: Commercial harvest of an estimated 500 MBF of lodgepole pine and Douglas-fir sawtimber from approximately 89 acres. The proposed project would primarily address timber that has been affected by insect and disease infestations, focusing on removing dead, dying, susceptible and overstocked trees. The project would incorporate group selection, selection and regeneration harvest methods utilizing conventional/tractor harvest systems. The project would utilize existing roads and construct approximately 1.4 miles of minimum standard new road on private lands and 0.7 miles of temporary, minimum standard new road on State lands to access the harvest units. The new road on State lands would be physically closed at the end of the project. Purpose of action is to generate revenue for the Common School Trust; remove overstocked and suppressed timber before its value is lost to insect and disease or wildfire; and improve the health, vigor and productivity of the forest in the proposed project area.

Location: Sections 34 and 35, Township 10 South, Range 13 West and Section 3, Township 11 South, Range 13 West

County: Beaverhead

### Category (refer to ARM 36.11.447 for additional detail):

- \_\_\_\_\_ 1) Temporary Uses of Land with Negligible Effects
- \_\_\_\_\_ 2) Plans and Policies
- \_\_\_\_\_ 3) Leases and Licenses
- \_\_\_\_\_ 4) Acquisition of Land or Interest in Land
- \_\_\_\_\_ 5) Road Maintenance and Repair
- \_\_\_\_\_ 6) Bridges and Culverts
- \_\_\_\_\_ 7) Crossing Class 3 Streams
- \_\_\_\_\_ 8) Temporary Road Use Permits
- \_\_\_\_\_ 9) Road Closure
- \_\_\_\_\_ 10) Material Stockpiles
- \_\_\_\_\_ 11) Backfilling
- \_\_\_\_\_ 12) Gathering Forest Products for Personal Use
- \_\_\_\_\_ 13) Regeneration
- \_\_\_\_\_ 14) Nursery Operations
- \_\_\_\_\_ 15) Water Wells
- \_\_\_\_\_ 16) Herbicides and Pesticides
- \_\_\_\_\_ 17) Other Hazardous Materials
- \_\_\_\_\_ 18) Fences
- \_\_\_\_\_ 19) Waterlines
- \_\_\_\_\_ 20) Removal of Small Trees
- \_\_\_\_\_ 21) Removal of Hazardous Trees
- \_\_\_\_\_ 22) Cone Collection

X   23) Timber Harvest (<100 MBF green or **500 MBF salvage**)

By process of the adoption of the Administrative Rules for Forest Management on February 27, 2003, pursuant to ARM 36.2.523(5)(a), the Department of Natural Resources and Conservation, Trust Land Management Division, has adopted the above categorical exclusions for activities conducted on state forest lands. "Categorical Exclusion" refers to a type of action that does not individually, collectively, or cumulatively require an EA or EIS unless extraordinary circumstances occur (ARM 36.2.522(5)).

**Extraordinary Circumstances:**

Will the proposed action affect one or more of the following resources or situations in the project area? If the resource or situation is present, but project design avoids potential adverse effects on the resource, the answer is "no". One "Yes" answer indicates that Categorical Exclusion is not appropriate for the project, and an EA or EIS must be conducted.

YES	NO	
<u>          </u>	<u>  X  </u>	1) Sites with high erosion risk.
<u>          </u>	<u>  X  </u>	2) Federally listed threatened and endangered species or critical habitat for threatened and endangered species as designated by the USFWS.
<u>          </u>	<u>  X  </u>	3) Municipal watersheds.
<u>          </u>	<u>  X  </u>	4) The SMZ of fish bearing streams or lakes, except for modification or replacement of bridges, culverts and other crossing structures.
<u>          </u>	<u>  X  </u>	5) State natural area.
<u>          </u>	<u>  X  </u>	6) Native American religious and cultural sites.
<u>          </u>	<u>  X  </u>	7) Archaeological sites.
<u>          </u>	<u>  X  </u>	8) Historic properties and areas.
<u>          </u>	<u>  X  </u>	9) Several related projects that individually may be subject to categorical exclusion but that may occur at the same time or in the same geographic area. Such related actions may be subject to environmental review even if they are not individually subject to review.
<u>          </u>	<u>  X  </u>	10) Violations of any applicable state or federal laws or regulations.

The project listed above meets the definition of the indicated categorical exclusion, including specified conditions and extraordinary circumstances, as provided in the Administrative Rules for Forest Management (ARM 36.11.447).

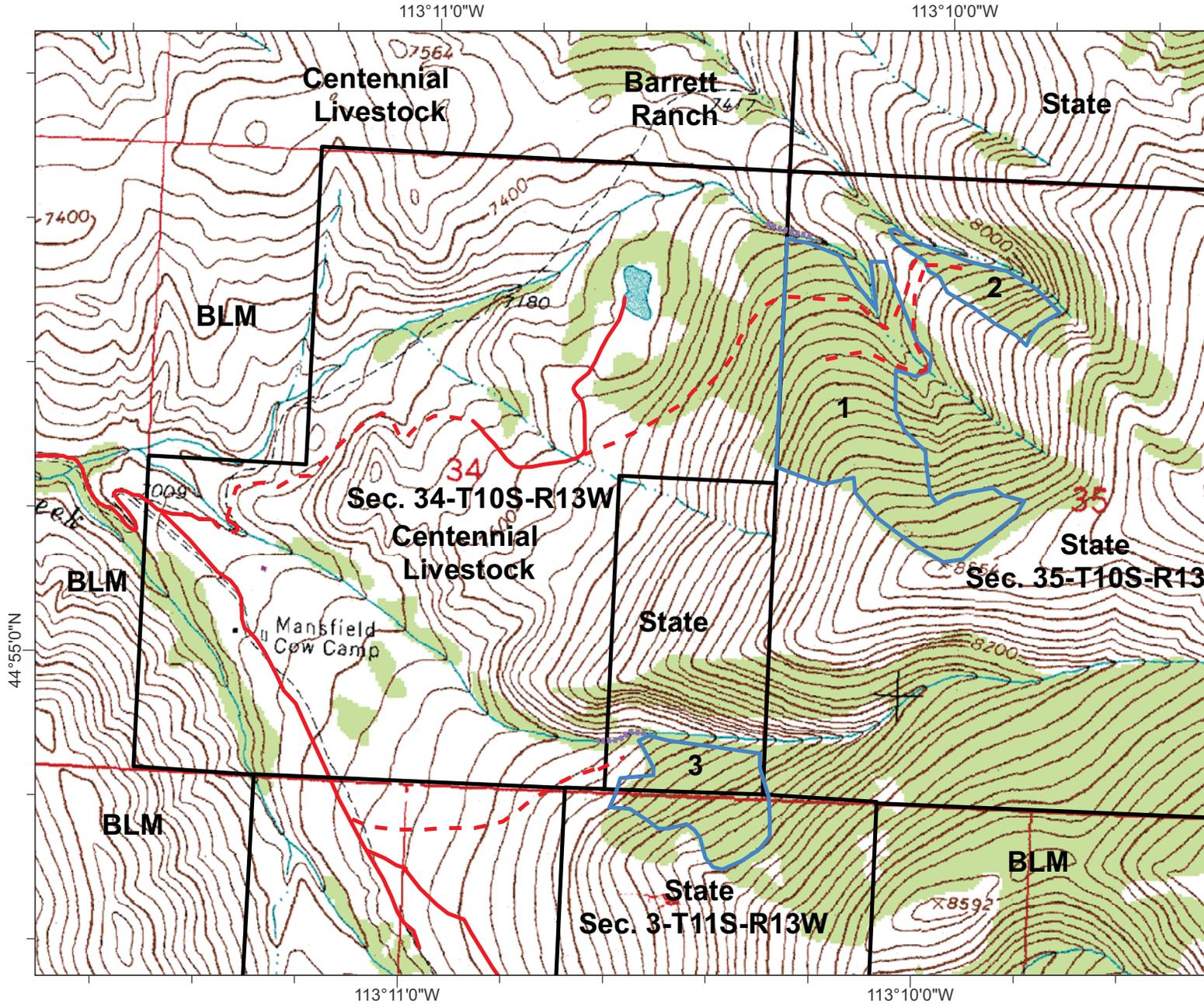
Prepared by:   Chuck Barone     8/15/10    
(Name) (Date)

Decision by:   Tim Egan     Dillon Unit Manager    
(Name) (Title)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

**ATTACHMENT A**  
**Proposed Shenon Salvage Timber Harvest**  
**Sec. 34/35-T10S-R13W and Sec. 3-T11S-R13W**  
**Beaverhead County**



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 Miles  
 1:15,000

- Existing Road
- New Road
- Stream Management Zone
- Harvest Area

## ATTACHMENT E

### Vegetative Analysis/Stand Prescription

#### Forest Vegetation:

##### ***Existing Conditions***

The proposed harvest area is located toward the southern end of the Beaverhead Mountains along the forest/grassland ecotone. The three State parcels encompassing the project area are ~1052 acres of which approximately 484 acres are forested. Adjacent ownership is private, BLM and State.

Lands within the proposed project area occur in open, rolling country with generally broad and gentle ridge tops. Vegetation is a complex of grass range with mosaic stands of Douglas fir and lodgepole pine. Ridgelines and exposed southerly aspects are essentially rangeland and are either nonforested or sparsely stocked with noncommercial timber stands. Where aspen stands are present, conifer encroachment is overtaking these stands. Slopes range from 20-70% with an elevation range of 7,600 feet to 8,800 feet. Stands of timber occur predominately on north facing slopes and are a Douglas-fir cover type at the lowest elevations quickly transitioning into a lodgepole pine cover type as the elevation increases.

Douglas-fir/common juniper habitat types (Psme/Juco) are found on the drier sites with Douglas-fir the climax dominant and lodgepole pine as a persistent seral species. Individual Douglas-fir and Douglas-fir stands are exhibiting moderate crown defoliation and mortality due to repeated infestations of Spruce Budworm. These stands are also under attack from Douglas-fir Bark Beetle. Stand composition ranges from dense mature forest to heavily overstocked and stagnant forest to open mature and young encroachment forest. Regeneration is sparse with light understory vegetation and coarse woody debris present.

Subalpine fir/grouse whortleberry habitat types (Abla/Vasc) are found on the cooler, moister sites with subalpine fir the apparent climax species but lodgepole pine tends to dominate the stands as a major seral. All lodgepole pine stands are presently exhibiting heavy infestations of Mountain Pine Beetle, attacking trees of all ages and size classes. Stands are expected to yield to beetle attack within the next two years. These stands are comprised of moderately to densely stocked forest. Regeneration and understory vegetation is moderate with light to moderate coarse woody debris.

Dominant trees heights: 50-65', co-dominants: 40-50'. Age: 90 to 250 years. Yield capability: 45-50 cu. ft/ac/yr.

Older Douglas-fir trees (>150 years) occur throughout most of the lower elevation stands in small pockets and scattered individual trees. Large snags and suitable snag recruitment trees ( $\geq 21$ " dbh) are available within the Douglas-fir cover types. Encroachment occurs readily along edges of mature forest into areas that were non-forested grasslands around the turn of the century.

Harvesting on the State parcels occurred ~50 years ago for railroad ties and was limited to a few scattered small patches. The predominate management activity is grazing.

##### **Environmental Consequences**

###### **Direct, Indirect and Cumulative Effects of the No-Action Alternative**

Under the No Action Alternative, no commercial timber harvest would occur. 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. Estimated loss of mature timber resources to present and impending insect and disease infestation is 85-90%. Furthermore, there is a probability of additional resource losses due to the risk of

fire associated with the dead and dying timber.

#### Direct, Indirect and Cumulative Effects of the Action Alternative

The Action alternative of harvesting 69.5 acres would alter ~14% of the forested acres on the three State tracts within the proposed project area. Stand treatments would reduce the risk of fire and additional insect and disease infestation while restoring the forest to more open, younger aged stands.

The proposed levels of harvest and subsequent reduction in forest canopy would be similar or less than what would be expected to occur under the present natural conditions.

Commercial stand treatments would reduce the risk of fire and additional insect and disease infestation and recover value from resources before it is lost 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 there would be a higher percentage of the forest in older age classes than anticipated by Losensky.

The proposed timber harvest represents 7.9% of the total forested acres within the Shenon Creek watershed. Harvesting an estimated 500 MBF of timber would alter the forest cover on approximately 60 acres within the Shenon Creek watershed and 9.5 acres in the Rape Creek watershed. Harvest design is intended to recover value from resources before it is lost, reduce overstocking, fire hazard, and additional insect and disease while promoting forest health and productivity through the emulation of mixed severity and stand replacing fires. Additionally, harvest would 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 maintaining a semblance of historic stand conditions; and promote existing aspen stands.

#### **Fire History/Ecology:**

##### ***Existing Conditions***

The majority of 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 overcrowding and insect and disease infestations. A severe fire burned through the proposed project area approximately 140 years ago.

The scattered Douglas-fir climax areas are included in fire group six. The presence of scattered old, open-grown Douglas-fir were likely the result of frequent fires burning at lower intensities on gentler slopes and indicate that some of the project area was likely influenced by relatively frequent fire events. Existing trees that are less than 150 years old appear to represent forest encroachment due to forest succession and lack of fire disturbance during the past century. Fire suppression efforts have led to an increase in forest cover over the past 100 years. This is readily seen with comparisons of photographs taken in the late 1800's/early 1900's with photographs taken in the 1980's (Gruell 1983) showing a significant increase in forest cover.

##### **Environmental Consequences**

###### Direct, Indirect and Cumulative Effects of the No-Action Alternative

The No Action alternative would result in no appreciable change in the forest cover types or stand

structures in the near term and current successional patterns would continue unless fire or other disturbances intervened. 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 in the understory. Tree mortality from present and impending 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.

#### Direct, Indirect and Cumulative Effects of the Action Alternative

The Action alternative would change the classification of forest types for the short term due to the removal of the majority of the mature lodgepole pine and leaving scattered Douglas-fir. Harvest treatments for lodgepole pine would be regeneration cuts focusing on developing a younger, more vigorous stand of lodgepole pine in the future. Harvest treatments for Douglas-fir would be group selection/selection focusing on removing dead, dying, damaged and at-risk trees. 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:**

##### ***Existing Conditions***

All lodgepole pine stands are presently under attack from Mountain Pine Beetle and the majority of the mature trees, >80 years old, are expected to yield to beetle attack within the next two years. Individual Douglas-fir and Douglas-fir stands are exhibiting crown defoliation and mortality due to repeated infestations of Spruce Budworm. These stands are also under light to moderate attack from Douglas-fir Bark Beetle.

Years of regional drought and warm winters combined with high stand densities of mature and over-mature timber have compounded and aggravated 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.

##### **Environmental Consequences**

#### Direct, Indirect and Cumulative Effects of the No-Action Alternative

Under the No Action alternative stands would be susceptible to continued insect and disease infestations due to overstocked and suppressed conditions with an increased risk of stand replacing fire.

#### Direct, Indirect and Cumulative Effects of the Action Alternative

The Action alternative would recover value from affected resources while reducing the potential of additional 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:**

##### ***Existing Conditions***

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 shrub land. 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.

### **Environmental Consequences**

#### **Direct, Indirect and Cumulative Effects of the No-Action Alternative**

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. Insect and disease infestations combined with post-infestation fires are expected to move succession back to the non-stocked and seedling/sapling stage.

#### **Direct, Indirect and Cumulative Effects of the Action Alternative**

The Action alternative would move 69.5 acres of lodgepole pine and Douglas-fir cover types, distributed over 3 units, to younger successional lodgepole pine and Douglas-fir cover types. By removing the dead, dying and at-risk trees, the mature age classes and the current age structure of all commercial timber stands would be converted to a younger age structure.

### **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. 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).

Old trees do occur within the proposed project area but are generally found as small clumps of old relic trees (<5 acres) and scattered individuals. Historically, these remnants were typically naturally fragmented, open-park like communities maintained by frequent low intensity fires. Of the 69.5 acres in the proposed project harvest units, no acres would meet the DNRC definition of old growth.

### **Environmental Consequences**

#### **Direct, Indirect and Cumulative Effects of the No-Action Alternative**

The No Action alternative would likely result in an appreciable change in the older age structure and the present high representation of older trees over historic levels. As the majority of the unhealthy trees are represented by the larger, older age classes, these trees would eventually succumb to the present and future effects of insect and disease. All stands would remain at a higher susceptibility to insect and disease, and possible stand replacing fire.

#### **Direct, Indirect and Cumulative Effects of the Action Alternative**

The Action alternative would remove dead, dying and at-risk older trees and move the older stand structure to younger aged, more open stands where tree growth and vigor is encouraged and are more resistant to fire and insect and disease infestations. None of the proposed harvest acres would meet old growth definition. The harvest under this proposal would not affect the percentage of old growth remaining on State lands in Beaverhead and Madison Counties.

## **Fragmentation and Corridors:**

### ***Existing Conditions***

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 of forest habitat. Existing forest cover is predominately located in broken, foothill habitats and generally exhibits a low level of habitat connectivity.

### **Environmental Consequences**

#### **Direct, Indirect and Cumulative Effects of the No-Action Alternative**

Under the No Action alternative, habitat conditions would be expected to change in the near term from their current condition due to present and impending insect and disease infestations and post-infestation fire. Current size and shape of forested habitat patches within the proposed project area would be reduced and modified and offer a lower level of habitat security and higher proportional amounts of edge habitat than are currently exhibited. Wildlife species adapted to use larger patches of mature forest would be adversely affected by the decrease in forest density. 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.

#### **Direct, Indirect and Cumulative Effects of the Action Alternative**

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 69.5 acres, over 3 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. Endemic species that occur in this area would likely not be affected appreciably, as they most likely evolved with naturally fragmented forest conditions created by natural disturbance events. The proposed levels of harvest and subsequent reduction in forest canopy would be similar or less than what would be expected to occur under the present natural conditions. Due to the size of the proposed harvest units and number of acres harvested, expected effects would be minimal.

The proposed 2.1 miles of road construction would have minimal expected adverse impact on fragmentation of habitat or increases in human activity as the access to the proposed project is private and the 0.7 miles on the State parcels would be physically obstructed and effectively closed upon completion of the project. Cumulative effects related to the proposed new road construction 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 and temporary 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 activity.

### **Noxious Weeds:**

Currently there has been no noxious weed infestations detected on the State tracts.

## Cumulative Effects

Under the No Action alternative, noxious weeds could become established on 4 wheel drive 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:**

Segments of existing access roads with inadequate drainage would be improved to reduce erosion, sediment delivery and provide adequate drainage to meet BMP's. Existing roads on State lands are primitive two-tracks, range type roads that historically have been used for ranching purposes. The roads have been established over time, are poorly located and lack drainage or erosion control features. 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. System roads that are open to the public are under the jurisdiction of the BLM. No system roads exist on the State ownership.

## 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 ~2.1 miles of minimum standard new road. The first 0.5 miles of the new road would replace the lower portion of the existing access road which is located entirely within the SMZ of an unnamed tributary of Shenon Creek. Standard drainage features would be implemented to stabilize roads and control erosion concurrent with the proposed operations. After completion of the project, the 0.7 miles of the new road construction on State lands would be effectively closed after project completion by placing slash and debris on the road surface. All roads would have long-term drainage features installed and reseeded with site-adapted grass. Selected segments of the existing access roads would be improved through implementation of mitigation measures. The existing roads on State lands administered by the State 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 for lodgepole pine cover types would target all dead, dying and at-risk lodgepole pine and other shade intolerant species exhibiting signs of insect/disease, poor health and/or poor tree form characteristics for removal and overall stand density reduction, utilizing regeneration harvests. Older, large shade tolerant trees would be harvested to cull out defective or damaged trees, where applicable. Younger, smaller diameter shade tolerant trees exhibiting good health and form would be protected, where applicable.

Treatments for Douglas-fir cover types would target dead, dying and at-risk trees for removal. The majority of the unhealthy trees are in the older age classes and would be targeted for harvest while the younger age classes would be favored for the residual stand. Trees of all age classes exhibiting signs of insect/disease, poor health and/or poor tree form characteristics would be designated for harvest. Additionally, overall stand density would be reduced by 55-65% of the merchantable volume, targeting shade tolerant species and trees exhibiting overstocked/suppressed conditions, utilizing group selection/selection harvests. This stand density reduction would be concentrated in areas of the stands containing younger-aged/small to medium sized trees while retaining some of the healthy older trees, if available and 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.

Severity of stand conditions would dictate harvest method used, emulating moderately severe ground fire to stand replacing fire. Harvest prescription would recover value from resources before it is lost, reduce overstocking, fire hazard, and additional insect and disease while promoting forest health, vigor and productivity. Additionally, harvest would 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 maintaining a semblance of historic stand conditions; and promote existing aspen stands.

Aspen Areas - A regeneration harvest of all conifer sawtimber within 100 feet of the aspen clone 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.

Excess slash would be consolidated at landings and burned. 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.

Unit 1 (58.6 ac/350 MBF), Unit 2 (9.8 ac/45 MBF) and Unit 3 (21 ac/95 MBF): Units are composed of lodgepole pine with small pockets and scattered Douglas-fir within the stands and along stand edges. Some small pockets of aspen are found along moister sites and riparian areas. Sawtimber size ranges from 6-35" dbh, heights for dominants/co-dominants from 40-65' and an age range from 90-225 years. The stands are overstocked and suppressed and exhibiting heavy infestations of Mountain Pine Beetle. Additionally, light infestations of Spruce Budworm and Douglas-fir Bark Beetle are present in the stands. Encroachment Douglas-fir is found along the edges of the main stands and old relic trees are scattered through the units.

There is a significant lodgepole pine post and rail component in Units 1 and 2. Merchantable post and rail would be harvested along with firewood. All other submerchantable trees and shrubs would be protected and retained for visual screening.

A regeneration harvest would remove all merchantable lodgepole pine sawtimber and all conifers within 75-100' of aspen colonies for aspen restoration. Group selection and selection harvests would be utilized to harvest Douglas-fir  $\leq 36"$  dbh if it is dead, dying, at-risk, defective or damaged and for stand density reduction. Desirable dominant/co-dominant trees would be left for seed source. One large snag or snag recruit ( $\geq 21"$  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.

## MEASURES RECOMMENDED TO MITIGATE POTENTIAL IMPACTS:

- 1) Compliance with Forestry Best Management Practices (BMP's), Streamside Management Zone (SMZ) laws, the Montana Stream Protection Act (124 Permit) and applicable DNRC Forest Management Administrative Rules.
- 2) Limit equipment operations to periods when soils are dry (less than 20% soil moisture), frozen or snow covered (12 inches packed or 18 inches unconsolidated) to minimize soil compaction, rutting, vegetative disturbance and maintain drainage features. Control erosion by installing adequate drainage on roads and skid trails.
- 3) The Forest Officer shall approve a plan for felling, yarding and landing location in each harvest unit prior to the start of operations in the unit. The locations and spacing of skid trails and landings shall be designated and approved by the Forest Officer prior to operations and skid trails will not be spaced less than 60 feet. Retain all fine litter as feasible and 5-10 tons/acre of large woody debris >3" diameter. Minimize soil disturbance by general skid trail planning and limit sustained tractor skidding to slopes ≤50%. Limit scarification to 30-40% of the harvest area. Slash would be left in the harvest units where feasible, and distributed on skid trails upon completion of use, for nutrient cycling, to control erosion and to provide shade and protection for seedlings.
- 4) For slope stability on the road construction segments, construct cutslopes at 1:1 (run/rise) in common material and 1/4:1 for rock. Install adequate road drainage to control erosion concurrent with harvest activities and road opening and new construction. Provide effective sediment filtration along drainage features near crossing sites. New construction and major skid trails on State lands would be closed with slash and debris and/or barriers, and adequate drainage provided.
- 5) All road and logging equipment would be power washed and inspected prior to being brought on site. Sale area would be monitored for weeds following harvest and a treatment plan would be developed should noxious weeds occur.
- 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) Retain live, healthy older trees and stand attributes suitable for old growth development where available and applicable.
- 9) Contact DNRC wildlife biologist should any threatened or endangered species be encountered within the proposed project area.

## Literature Cited

Fischer, W. C., and B.D. Clayton. 1983. Fire ecology of Montana forest habitat types east of the Continental Divide. U.S. For. Serv. Gen. Tech. Rep. INT-141. 83pp.

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.

Gruell, G.E. 1983. Fire and vegetative trends in the Northern Rockies: Interpretations from 1971-1982 Photographs. USDA. Intermountain Forest and Range Experiment Station. General Technical Report INT-148. Ogden, Utah.

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

## ATTACHMENT F

### SHENON SALVAGE TIMBER PERMIT CHECKLIST FOR ENDANGERED, THREATENED AND SENSITIVE SPEICES

Pertains to Section II. 9. of the DS-252 DNRC Environmental Checklist

(Rev. August 1, 2007)

CENTRAL LAND OFFICE

Prepared by Chuck Barone

April 30, 2010

Threatened and Endangered Species	[Y/N] Potential Impacts and Mitigation Measures N = Not Present or No Impact is Likely to Occur Y = Impacts May Occur (Explain Below)
<p>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 85 miles east of the project area. Grizzly bear use of the Beaverhead Mountains may occur, however, the project area is currently considered outside of occupied habitat (Interagency Occupied Habitat Map, September 2002). Riparian habitats preferred by bears do not occur in the project area. Human access levels are presently low due to private access. Approximately 2.1 miles of new road would be constructed to minimum standard to access the proposed harvest units. ~0.7 miles of the new road on State lands would be physically closed at project completion. ~1.4 miles of the new road on private lands would be left open. The potential for any measurable increases in bear-human conflicts following the project activities are expected to be low. Adverse direct, indirect and cumulative impacts to bears as a result of this project are expected to be minimal.</p>
<p>Lynx (<i>Felis lynx</i>) Habitat: mosaics--dense sapling and old forest &gt;5,000 ft. elev.</p>	<p>[N] The proposed project area is located along the fringes of preferred lynx habitat. Suitable lynx habitat is potentially present in the Beaverhead Mountains (MNHP 2009) and Lynx could occasionally use the project area. However, habitats high in coarse woody debris that are preferred for denning, and large acreages (&gt;50 acres) of dense conifer regeneration at high elevations that are preferred for foraging are marginal in the project area. Lynx habitat is marginal due to naturally induced fragmentation, and the high level of interspersions of native grassland habitat and dry forest types. The majority of</p>

	<p>the habitat within the three State parcels would be categorized as “other” (220 ac - 55.4%), mature foraging (112 ac – 28.1%) and young foraging (65 ac - 16.5%) habitat. Additionally, there are ~92.5 acres of “temporary non” habitat. There is no identified denning habitat within any of the State parcels. Of the ~397 acres of potential lynx habitat (other, mature foraging and young foraging) on the State parcels, ~68.5 acres are proposed for harvest (56 ac “other”/32.5 ac mature foraging). This would leave ~68.5 acres converted to temporary non-habitat. 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><b>DNRC Sensitive Species</b></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>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 packs are the Moyer pack to the west in Idaho and the Gravelly pack to the east in Montana. Individuals from these packs or transients from other packs could occasionally use portions of the project area; however, due to the size, nature and location of the proposed project, activities associated with this proposal are not expected to effect wolves or recovery efforts. Should a new den be located within one mile of the project area, activities would cease and a DNRC Biologist would be contacted immediately. Mitigations would then be developed and implemented to minimize adverse impacts to wolves prior to initiating any activity.</p>
<p>Bald Eagle (<i>Haliaeetus leucocephalus</i>)  Habitat: late-successional forest &lt;1 mile from open water</p>	<p>[N] Bald Eagles have been documented within the quarter latilong (L49B) that encompasses the proposed project area (Skaar 1996, MNHP 2010). No nesting habitat occurs on, or within one mile of the proposed project area, and the project area likely occurs outside of any Bald Eagle nesting home range. No direct, indirect or cumulative effects to Bald Eagles associated with this project are anticipated.</p>

<p>Black-Backed Woodpecker (<i>Picoides arcticus</i>) Habitat: mature to old burned or beetle-infested forest</p>	<p>[N] Black-backed woodpeckers have not been documented within the quarter latilong (L49B) that encompasses the proposed project area (Skaar 1996, MNHP 2010). However, stands found within the proposed project area are presently experiencing heavy insect activity and could attract birds. No recent burns (<math>\leq 5</math> years old) have occurred within the State tracts or adjoining sections. Due to the small size, location and short duration of this proposed project only minor potential for direct, indirect or cumulative effects to black-backed woodpeckers would be expected to occur.</p>
<p>Black-tailed Prairie Dog (<i>Cynomys ludovicianus</i>) Habitat: Prairie, shortgrass prairie, badlands</p>	<p>[N] Grassland habitats suitable for use by black-tailed prairie dogs do not occur within one mile of the proposed project area. Impacts to black-tailed prairie dogs are not anticipated.</p>
<p>Flammulated Owl (<i>Otus flammeolus</i>) Habitat: late-successional ponderosa pine and Doug.-fir forest</p>	<p>[N] Flammulated Owls have not been documented within the quarter latilong (L49B) that encompasses the proposed project area (Skaar 1996, MNHP 2010). The parcel involved in the proposed project maintains elevations that range from about 7,600-8,400 feet. Flammulated Owls have been found in warm, dry Douglas-fir cover types. The parcels involved in this project have similar vegetative conditions, represented by small, scattered patches but the associated higher elevations are not their preferred habitat. Direct, indirect and cumulative effects to Flammulated Owls would not be expected to occur under the alternatives considered.</p>
<p>Greater Sage-grouse (<i>Centrocercus urophasianus</i>) Habitat: sagebrush semi-desert</p>	<p>[N] Sage Grouse have been documented in the quarter latilong (L49B) that encompasses the proposed project area (Skaar 1996, MNHP 2010). The area surrounding the proposed project has been identified as a core area for Sage Grouse. Sagebrush semi-desert habitats suitable for use by Sage Grouse do occur within one-half mile of the project area but no leks have been identified within one mile of the project area or haul route. Impacts to Sage Grouse are not anticipated.</p>
<p>Harlequin Duck (<i>Histrionicus histrionicus</i>) Habitat: white-water streams, boulder and cobble substrates</p>	<p>[N] Harlequin ducks have not been documented within the quarter latilong (L49B) that encompasses the proposed project area (Skaar 1996, MNHP 2010). No high gradient streams suitable for use by harlequins occur within the project area or along proposed haul routes. No impacts to Harlequin Ducks would be expected to occur as a result of this project.</p>

<p>Mountain Plover (<i>Charadrius montanus</i>)  Habitat: short-grass prairie, alkaline flats, prairie dog towns</p>	<p>[N] Mountain Plovers have not been documented within the quarter latilong (L49B) that encompasses the proposed project area (Skaar 1996, MNHP 200). 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>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>Peregrine Falcon (<i>Falco peregrinus</i>)  Habitat: cliff features near open foraging areas and/or wetlands</p>	<p>[N] Peregrine Falcons have been documented within the quarter latilong (L49B) that encompasses the proposed project area but not within the project area (MNHP 2010). Cliff features that may be suitable for use by nesting Peregrine Falcons do occur within 1 mile of the project area. No direct, indirect or cumulative effects associated with this project are anticipated.</p>
<p>Pileated Woodpecker (<i>Dryocopus pileatus</i>)  Habitat: late-successional ponderosa pine and larch-fir forest</p>	<p>[N] Pileated woodpeckers have not been documented within the quarter latilong (L49B) that encompasses the proposed project area (Skaar 1996, MNHP 2010). 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>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>

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

# Shenon Salvage Timber Permit, Geology and Soils Report

T 10S R13W S34/35 and T11S R13W S03  
Central Land Office, Dillon Unit  
Prepared by J. Schmalenberg, Soil Scientist

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## Proposed Action

The proposed project would primarily address timber that has been affected by insect and disease infestations. The proposed harvest would utilize tractor logging and remove up to 500 thousand board feet of sawlog material from approximately 90 acres, focusing on removing dead, dying, overstocked and susceptible Douglas-fir and lodgepole pine trees. The proposed project would utilize existing roads and construct ~2.0 miles of temporary, minimum standard new road.

## Existing Conditions

On September 9, 2009 I reviewed the proposed harvest units and road locations within the Shenon Salvage project area. Soils within the project area were field reviewed for biophysical resiliency with regard to the proposed actions. Any existing impacts from past management activities including timber harvest and grazing was also noted.

Soils within the project area have been mapped by the NRCS in the Horse Prairie-South Valley Area--Part of Beaverhead County, Montana soil survey. One soil map unit exist within the three proposed harvest units and consists of the Como-Garlet-Elkner families, complex, steep mountain slopes (Map Unit 541S). This soil can be described as a very gravelly sandy loam with minimal organic content and duff layers. Coarse rock fragments within the soil profile exceed 30% throughout the project area and are highly resistant to mechanical compaction. Due to the sandy nature of the soil, soil strength is rather low and displacement of the most fertile surface soils is the primary concern in maintaining long-term soil productivity. The soil is also excessively well drained due to the coarse nature of the material leading to a low risk of erosion on all but the steepest slopes in the project area (>50%).

No historic timber harvest has occurred with the harvest proposed harvest units and no grazing license is currently held on these two parcels of State land. No existing detrimental soil effects were observed during field review.

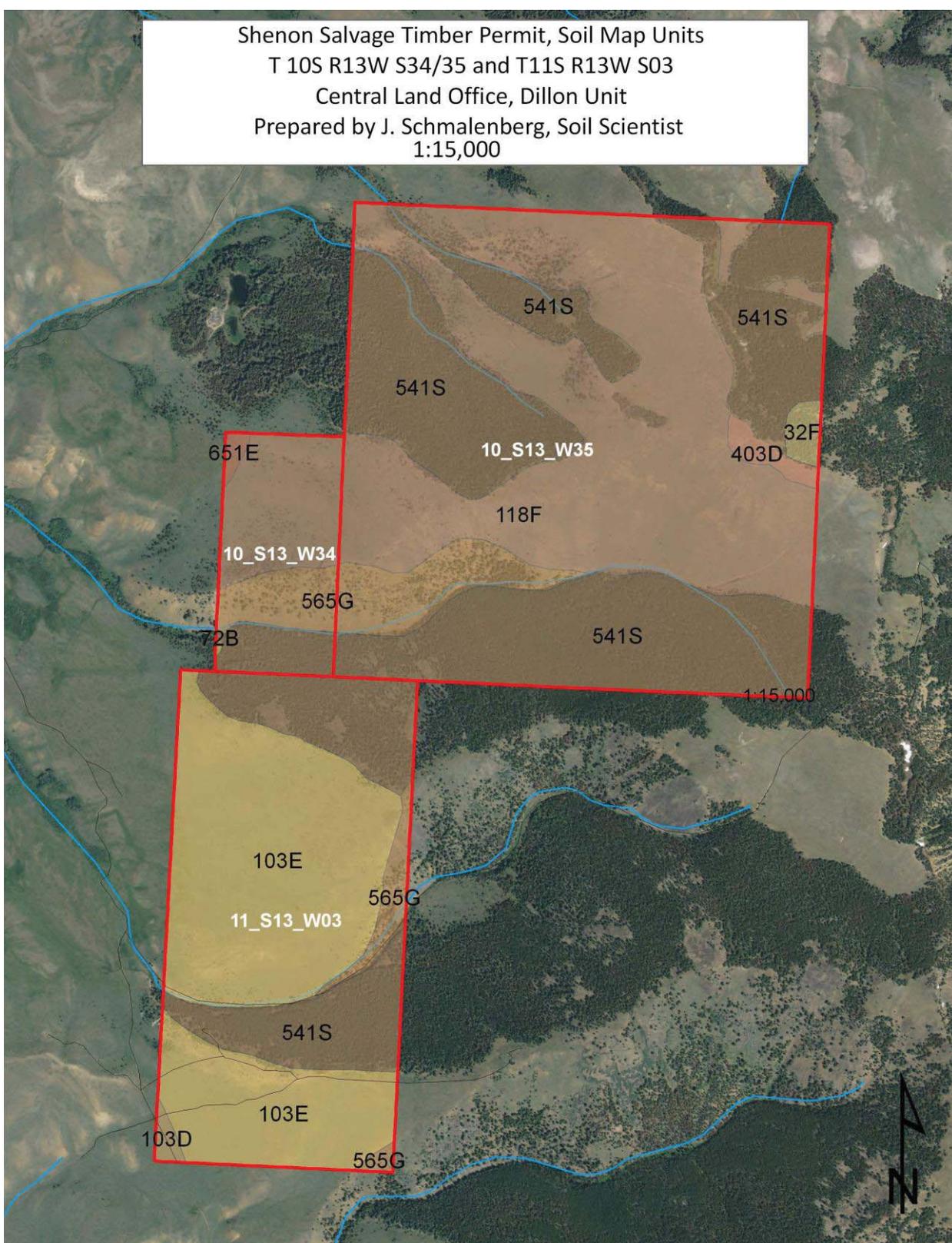
## Environmental Effects

Long-term soil productivity is expected to be maintained on 85% of the harvest units with most impacts associated with displacement on main skid trails and landing sites. Direct and indirect impacts associated with felling and skidding operations will detrimentally impact 15% or less of the harvest units with impacted expected for 60-80 years. The land use on approximately 6 acres of land will be permanently converted from rangeland/forest products to transportation with the construction of access roads to the harvest units. After completion of harvest activities, adequate road surface drainage will be provided, slash placed on the road surface and access closed. These actions will allow natural restorative processes to begin though complete recovery is not expected.

No cumulative effects are expected due to the lack of previous entries and lack of licensed grazing within the project area. No future harvest plans are foreseen for the year 40 plus years.

Suggested mitigations to reduce overall impacts include spacing skid trails at the maximum extent practical and should not be less than 40 feet. If a grapple skidder is used, consider packing back slash on main trails to provide vegetative cover and soil protection from skidding operations. All trails should be water-barred and slashed concurrent with the completion of harvest activities. 15 tons/acre of coarse woody material (>3.0 inches) should be retained on site to minimize site impacts, facilitate microclimate growing sites, erosion control and long-term soil wood. Fine woody material should be retained to the maximum extent possible.

Shenon Salvage Timber Permit, Soil Map Units  
T 10S R13W S34/35 and T11S R13W S03  
Central Land Office, Dillon Unit  
Prepared by J. Schmalenberg, Soil Scientist  
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## **Shenon Timber Sale: Fisheries technical support for project EA**

Jim Bower, Fisheries Program Specialist

August 18, 2010

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On 2 September 2009 I performed a brief field review of a portion of the Shenon Timber Sale project area. The scope of this technical support involves fisheries presence/absence surveys and fish habitat observations.

### **SECTION 34, T10S R13W**

An unnamed tributary to Shenon Creek flowing through state lands SE1/4 SE1/4 T10S R13W Section 34 was evaluated during this field review. The reach of the unnamed tributary within state lands was observed to be a Class 2 stream segment exhibiting no surface base flows. The lack of surface flows within state lands is due to a natural aggradation of porous colluvium from a scree slope confining the stream channel to the north. Perennial surface flows emerge in the stream channel at the state lands and Centennial Livestock property boundary to the west.

The Class 2 reach through state lands exhibits an unstable, actively meandering geomorphology. Substrates in this reach are approximately 10% sands, 40% gravels, 35% cobbles and 15% boulders. The unstable character of the reach appears to be due natural processes from intermittent upstream sediment supplies interacting with larger size-class colluvium.

Downstream of the property boundary the perennial, Class 1 stream reach exhibits high-quality fish habitats with well-sorted substrates and relatively stable banks and features. This reach very likely historically supported native fisheries; however, a permanent irrigation diversion on private lands 1,300' downstream of the property boundary conducts all surface flows away from the channel and precludes current fish population establishment in the reach.

No special fisheries or water quality resource mitigations are recommended in this section of the project area.