

Environmental Assessment Checklist

Project Name: Devil Mountain 2 Timber Sale
Proposed Implementation Date: October 2016
Proponent: Anaconda Unit, Southwest Land Office, Montana DNRC
County: Powell

Type and Purpose of Action

Description of Proposed Action:

The Anaconda Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Devil Mountain 2 Timber Sale. The project is located approximately 8 miles south of Helmville, Montana (refer to Attachments vicinity map A-1 and project map A-2) and includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	All, Section 36, T12N, R11W	640	276
Public Buildings			
MSU 2 nd Grant			
MSU Morrill			
Eastern College-MSU/Western College-U of M			
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Salvage Lodgepole pine killed by Mountain Pine Beetle and Douglas-fir being impacted by Western Spruce Budworm, consistent with MCA 77-5-207.
- Promote long-term revenue generating capability through improved forest health with emphasis on biodiversity and regeneration of forested stands.
- Reduce current stocking levels in Douglas-fir to improve growth productivity.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Salvage	53
Seed Tree	62
Shelterwood	161
Total Treatment Acres	276
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Planting	
Proposed Road Activities	# Miles
New permanent road construction	1.99
New temporary road construction	1.05
Road maintenance	8.38
Road reconstruction	0
Road abandoned	0
Road reclaimed	0
Other Activities	

Duration of Activities:	24 months
Implementation Period:	October 2016 – March 2019

The lands involved in this proposed project are held in trust by the State of Montana. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- The Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP) (DNRC 2010)
- All other applicable state and federal laws.

Project Development

SCOPING:

- DATE: October 2014
- PUBLIC SCOPED:

- The scoping notice was posted on the DNRC Website:
<http://dnrc.mt.gov/PublicInterest/Notices/Default.asp>
- Legal notification was placed in the Missoulian newspaper
- Adjacent landowners and those listed on the statewide scoping list.
- AGENCIES SCOPED:
 - Scoping notices were sent to Montana FWP and tribal members on the statewide list.
- COMMENTS RECEIVED:
 - One external comment was received from adjacent landowner Edward Hanson asking for more details regarding the proposal.
 - No external agency comments were received.

DNRC specialists were consulted, including: DNRC/SWLO Hydrologist, Jeff Collins; DNRC/SWLO Biologist, Garrett Schairer; DNRC Forest Management Bureau Staff

Internal and external issues and concerns were incorporated into project planning and design and will be implemented in associated contracts.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **United States Fish & Wildlife Service-** DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands HCP and the associated Incidental Take Permit that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. This project complies with the HCP. The HCP can be found at www.dnrc.mt.gov/HCP.
- **Montana Department of Environmental Quality (DEQ)-** DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.
- **Montana/Idaho Airshed Group-** The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2006). The Group determines the delineation of airsheds and impact zones throughout Idaho and Montana. Airsheds describe those geographical areas that have similar atmospheric conditions, while impact zones describe any area in Montana or Idaho that the Group deems smoke sensitive and/or having an existing air quality problem (Montana/Idaho Airshed Group 2006). As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit.

ALTERNATIVES CONSIDERED:

No-Action Alternative: No trees would be harvested and no new roads would be built. The live trees would continue to decline in health and vigor until a natural disturbance occurred and reduced stocking levels. Dead Lodgepole pine killed by Mountain Pine Beetle would continue to deteriorate and eventually fall over creating an increased fuel load which could contribute to a more intense fire causing additional impacts. Western Spruce Budworm would continue to impact Douglas-fir trees. The existing roads would not be improved to meet BMP's.

Action Alternative : Approximately 1,500 MBF would be harvested from 276 acres through a combination of clearcut, seed tree and shelterwood harvests. Approximately 3 miles of new road would be constructed to facilitate harvest. Approximately 8 miles of existing private and BLM controlled road would have site specific improvements designed to meet BMP's.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Vegetation Existing Conditions: Stand Level Inventory (SLI) shows the following acreage by species, age and size class present within the section.

Species	Size Class	Age Class	Acres
DF	Saw timber *	200+	17
DF	Saw timber	150-199	143
DF	Pole timber **	100-149	48
DF	Saw timber	100-149	166
LP	Saw timber	100-149	9
LP	Pole timber**	100-149	128
LP	Seedling/Sapling	000-039	90
AF	Saw timber	150-199	35

*These stands contain mostly trees > 7" DBH

**These stands are dense, stagnated stands < 7" DBH

The section has 636 acres of forested cover. Approximately 90 acres of Lodgepole pine was salvage harvested in 2008 and has fully regenerated with >500 seedlings per acre. Of the 276 acres of forest cover proposed for harvest, 53 acres is Lodgepole pine and 223 acres is predominantly Douglas-fir. Stand level inventory (SLI) and field surveys shows no old growth is present due to the lack of trees > 21" DBH.

Weeds

A minor amount of noxious weeds, mainly Spotted knapweed, Houndstongue and Thistle, have been observed within the State section and mostly along the roadway and landings from the previous harvest in 2008.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Noxious Weeds		X				X				X				
Rare Plants	X				X				X					1
Vegetative community		X				X				X				2
Old Growth	X				X				X					
Action														
Noxious Weeds			X				X				X		Y	3, 5
Rare Plants	X				X				X					
Vegetative community		X				X				X				4
Old Growth	X				X				X					

Comments:

No Action

1. With no action, noxious weeds would continue to occur on State and adjacent lands spread by natural disturbance. The grazing licensee would be responsible for noxious weed management.
2. Very little measurable change would be expected with the no action alternative. Mountain Pine beetle has run its course and killed the majority of susceptible trees. Those trees that have been killed would likely begin to fall over and create a heavy down fuel load, which could contribute to a fire of greater intensity creating additional impacts to other resources. Western Spruce budworm would continue to stress and impact trees until an act of nature reduces the budworm populations.

Action

3. Under the action alternative, increased disturbance in the project area, as well as a more open canopy, can lead to an increased spread of noxious weeds.
4. With the action alternative, no unacceptable change would be anticipated to the vegetative community. Forested patch size and shape would not change but densities would be greatly reduced. Based upon adjacent harvest areas, natural regeneration would be expected to occur quickly.

Vegetation Mitigations:

4. DNRC plans to complete herbicide treatments of spot infestations on the state project parcel and segments of the access roads on adjacent ownerships to control existing weeds. All off road equipment would be washed and inspected prior to start of work. All new roads would be reseeded to site adapted grass to reduce the threat of noxious weed spread. Project areas would be monitored for noxious weeds after implementation and herbicide may be applied when and if needed. The grazing licensee would continue to be responsible for noxious weed management.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

Geology is limestone and argillites on the north half of the section. Rock outcrops and shallow soils are common on ridges and convex slopes and ridges. The southerly half of the section and concave slopes and footslopes are tertiary valley fill deposits of silts and clays. No especially unique geology occurs in the project area. Small areas of past slope instability were identified within the state section but are not within the proposed harvest units and would not be impacted by the proposed action.

Soils properties and mitigations are listed in attached table and referenced to project area map and Powell county Soil Survey. Whitecow, Whitore and Relyea soils are developed from weathered limestone in the project area. These soils are gravelly except for Relyea and carbonates occur at shallow depth which limits rooting. Primary concerns are minimizing erosion and displacement of shallow surface soils by limiting tractor operations to slopes less than 45%. Soils are generally well drained and droughty, especially on southerly aspects and plant competition for limited moisture and nutrients limits tree growth. Shallow surface soils are subject to displacement, and shallow depth to fractured rock is common. Material quality is generally good for road and operations, and most rock should be rippable along proposed roads.

Bignell, Yreka and Trapps soils that have higher clay contents in subsoils, forming from tertiary clay deposits that are prone to rutting if operated on when wet. Concave slopes and northerly aspects tend to remain moist to wet later in the spring. Erosion potential is moderate to severe on the slopes over 45% and can be mitigated by implementation of BMP's, and season of use restrictions. On all proposed harvest areas there are moderate to high levels of woody debris on the ground due to mortality and very limited previous harvest entries.

Past harvest has occurred in the section, mainly on moderate slopes and skid trails have revegetated well. No apparent BMP departures were observed and there were low cumulative effects associated with the previous harvest.

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Physical Disturbance (Compaction and Displacement)	X				X				X					
Erosion			X				X				X		Roads	1
Nutrient Cycling	X				X				X					
Slope Stability	X				X				X					
Soil Productivity	X				X				X					
Action														
Physical Disturbance (Compaction and Displacement)			X			X				X			Y	2
Erosion			X				X				X		Y	2
Nutrient Cycling			X				X			X			Y	3
Slope Stability		X				X			X					

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Soil Productivity			X				X			X			Y	2,3

Comments/Mitigations:

1. The existing access roads up to the project section cross high clay soils and segments of the road are rutted and eroded from use when wet. Road maintenance has occurred as part of occasional forest operations.
2. DNRC project manager completed a road log for location and design of drainage improvements on existing roads and new roads. BMP's would be implemented on all roads and harvest units and drainage would be maintained concurrent with operations. A short segment of rutted road would be graveled with pit-run material to prevent rutting and maintain drainage. To minimize soil impacts, tractor operations would be limited to slopes less than 45%, with cable operations required on steeper slopes. Operations would be limited to dry, frozen or snow covered conditions. Windthrow risk can be reduced by promoting codominant trees that are well spaced to reduce moisture competition and improve growth.
3. Mitigations to avoid excessive soil impacts would include season of use limitations, retaining a portion of fine and coarse woody debris to maintain soil moisture and nutrient properties, while completing adequate slash disposal as needed to protect soil resources. Retain 5-10 tons/ acre of well distributed slash (fine and coarse woody debris) during harvest for soil productivity/ moisture and conifer microsites. Slash from cut trees would be return skidded to the harvest unit, or lopped and scattered within the unit. Nutrients from slash would be available to soils as they decompose and promote prompt revegetation. Within harvest units we expect retained trees would have less competition and would result in improved growth.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions:

Current water quality is impacted by road use and inadequate road drainage on portions of roads in the Nevada Creek valley and mixed uses of timber harvest, grazing and rural development. Lower Cottonwood Creek (below the harvest area) is impaired for not fully supporting aquatic life and recreation contact, drinking water was not assessed. Probable causes are low flow alterations, sedimentation/siltation and water temperature. The project area is located in the headwaters of the Cottonwood Creek watershed that is drained by the tributary streams; Wet Cottonwood Creek and Dry Cottonwood Creek, and these tributaries are not listed as impaired.

The state project section is located in the Cottonwood Creek drainage and its tributary Wet Cottonwood Creek flows through the north half of the project section. Cottonwood Creek flows are largely diverted for irrigation below the state parcel. Water Quantity is expected to moderately increase from extensive tree mortality from insects, and is within an expected natural range of conditions. Timber harvest within the drainage is moderate. In 2008, 85 acre of timber harvest was completed in this project section with and has since regenerated to young conifers.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality			X				X				X			1
Water Quantity			X				X				X			1
Action														
Water Quality		X	X			X	X			X	X		Y	2,3
Water Quantity			X				X				X		Y	4

Comments/Mitigations:

- Harvest effects on Water Quality- The Montana Administrative Rules for Forest Management; Watershed Management and Habitat Conservation Plan would be implemented. All BMP's, would be applied and administered during road construction and harvest operations. The SMZ along Wet Cottonwood Creek is mainly 100ft in width with some short segments of 50ft SMZ on slopes less than 35%. An 85 ft. wide Riparian Management Zone RMZ was determined for Wet Cottonwood Creek where limited harvest may occur along the outside boundary of 50 to 85 ft. from the stream and up to 200 ft. of stream length.

The limited RMZ harvest that includes of dead and dying trees, would retain 10 or more trees in the RMZ and would maintain a wide vegetated sediment buffer with low potential for sediment delivery. Harvest adjacent to and within the RMZ would be hand felled and cabled upslope to avoid disturbance in the RMZ. On all harvest areas disturbance would be limited to goals needed for silviculture and skid trails would be stabilized by slashing and installing drainage where needed to prevent erosion

- Road effects on Water Quality- The proposed haul route would use existing roads to the project parcel and construct about 3 miles of combined temporary and permanent roads. The DNRC project manager completed a road log for location and design of drainage improvements on existing roads and new roads. No new stream crossings would be constructed.

BMP's would be implemented on all roads and within the harvest units and drainage would be maintained concurrent with operations. Road drainage improvements would be made to about 10 miles of existing roads that would greatly reduce sediment during the proposed harvest and hauling operations. Road drainage repairs would focus on existing stream crossings to divert sediment away from the crossing site and stabilize as feasible, the sediment sources identified in the road log. Hauling operations would be limited to frozen or snow covered conditions to prevent rutting disturbance and sedimentation. Road maintenance and grading would continue thru the period of the sale operations and damages to roads would be repaired. The proposed repairs would immediately improve water quality during DNRC operations resulting in a low to moderate effect to sediments and water quality. Sedimentation would recur if maintenance is not continued in the future continue due to poor existing road locations and third party road use.

- The proposed timber harvest of overstocked, dead and dying trees has a low potential to increase runoff from decreased interception and transpiration, due to moderate

precipitation and retaining well stocked and spaced conifers to maximize growth. Any potential change in water yield is expected to be moderately low compared to the no-action alternative of continued tree mortality. Any increased water yield is unlikely to have a measurable influence on the amount or timing of runoff (water yield), or downslope stream stability from the proposed project area when compared to the effects anticipated under no action. Based on the harvest and road design, there is low to moderate risk of direct, indirect or cumulative effects to water quality or downstream beneficial uses from the action alternative.

FISHERIES:

Fisheries Existing Conditions:

Fisheries Existing Conditions: The project section is drained by Wet Cottonwood Creek, that is a tributary to Cottonwood Creek, and drains into Douglas Creek. Westslope cutthroat trout, rainbow trout and brook trout occur within the Cottonwood Creek watershed, based on surveys by Montana FWP (MFISH 2015). Dry Cottonwood Creek has seasonal flow and does not support fisheries. Wet Cottonwood Creek flows through the project section (refer to attached watershed map WS-1). No fisheries surveys have been completed for Wet Cottonwood Creek, but will be considered to support fish for this analysis.

No-Action: No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

Action Alternative (see Fisheries table below):

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number	
	Direct				Secondary				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High			
<i>No-Action</i>															
Sediment			X				X				X				1
Flow Regimes		X				X				X					1
Woody Debris	X				X				X						
Stream Shading	X				X				X						
Stream Temperature	X				X				X						
Connectivity			X				X				X				1
Populations	X				X				X						
<i>Action</i>															
Sediment		X	X			X	X			X	X			Yes	2
Flow Regimes		X				X				X				No change	3
Woody Debris	X				X				X						
Stream Shading	X				X				X						
Stream Temperature	X				X				X						
Connectivity			X				X				X			No change	3
Populations	X				x				X						

Comments/Mitigations:

2. There is an improved low to moderate risk of impacts to fisheries from sediments associated with road use under the proposed action alternative. Under the action alternative road drainage would be improved and sediment delivery would be reduced during the proposed timber sale period, compared to the no-action alternative. Long term impacts of sediment would be lower or similar to existing conditions depending on the level of future maintenance and third party road use.

No new stream crossings are proposed that would affect sediments. (MFISH) and no harvest would occur within the Streamside Management Zone of 100 ft. or the Riparian Management Zone which is 85 ft. The proposed cable harvest upslope of the Wet Cottonwood Creek SMZ/RMZ would cause low soil disturbance and has low potential for sediment contribution to the stream. The proposed cable unit access road is over 500 ft. from the creek and there is low potential for sediment delivery through this wide vegetation buffer. All BMP's and erosion control measures including slash filter windrows and grass seeding are expected to control erosion.

3. There is no effect on connectivity on the state parcel. Flow is limited on private lands downstream by irrigation diversions and low flows affects connectivity. The action alternative would not measurable change flow regimes, although there may be a slight increase in flows associated with tree mortality.

WILDLIFE:

Wildlife Existing Conditions: The project area is a mix of forested Douglas-fir and lodgepole pine stands, and there are approximately 85 acres of young forest in the project area as a result of salvage logging activities about 8 years ago. Potential habitat exists for grizzly bears, Canada lynx, fisher, flammulated owls, pileated woodpecker, and wolverine in the project area. Big game summer range exists in the project area; big game winter range is not present in the project area.

No-Action: No disturbance to wildlife would be anticipated. Continued maturation could improve habitats for Canada lynx, fisher, and pileated woodpeckers, but could reduce habitat quality for flammulated owls and summer foraging habitats for Canada lynx over the long term. No changes in wolverine habitat or use would be anticipated. Generally, negligible direct, indirect, or cumulative effects would occur for all these species.

Action Alternative (see Wildlife table below):

Wildlife	Impact								Can Impact be Mitigated?	Comment Number	
	Direct and Indirect				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High			
Threatened and Endangered Species											
Grizzly bear <i>(Ursus arctos)</i> Habitat: Recovery areas, security from human activity		X				X				Y	W-1
Canada lynx <i>(Felix lynx)</i> Habitat: Subalpine fir habitat types, dense		X				X				Y	W-2

Wildlife	Impact								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
sapling, old forest, deep snow zone										
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) Habitat: Deciduous forest stands of 25 acres or more with dense understories and in Montana these areas are generally found in large river bottoms	X				X					
Sensitive Species										
Bald eagle (<i>Haliaeetus leucocephalus</i>) Habitat: Late-successional forest within 1 mile of open water	X				X					
Black-backed woodpecker (<i>Picoides arcticus</i>) Habitat: Mature to old burned or beetle-infested forest	X				X					
Coeur d'Alene salamander (<i>Plethodon idahoensis</i>) Habitat: Waterfall spray zones, talus near cascading streams	X				X					
Columbian sharp-tailed grouse (<i>Tympanuchus phasianellus columbianus</i>) Habitat: Grassland, shrubland, riparian, agriculture	X				X					
Common loon (<i>Gavia immer</i>) Habitat: Cold mountain lakes, nest in emergent vegetation	X				X					
Fisher (<i>Martes pennanti</i>) Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian		X				X			Y	W-3
Flammulated owl (<i>Otus flammeolus</i>)		X				X			Y	W-4

Wildlife	Impact								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
Habitat: Late-successional ponderosa pine and Douglas-fir forest										
Gray Wolf (<i>Canis lupus</i>) Habitat: Ample big game populations, security from human activities	X				X					
Harlequin duck (<i>Histrionicus histrionicus</i>) Habitat: White-water streams, boulder and cobble substrates	X				X					
Northern bog lemming (<i>Synaptomys borealis</i>) Habitat: Sphagnum meadows, bogs, fens with thick moss mats	X				X					
Mountain plover (<i>Charadrius montanus</i>) Habitat: short-grass prairie & prairie dog towns	X				X					
Peregrine falcon (<i>Falco peregrinus</i>) Habitat: Cliff features near open foraging areas and/or wetlands	X				X					
Pileated woodpecker (<i>Dryocopus pileatus</i>) Habitat: Late-successional ponderosa pine and larch-fir forest		X				X			Y	W-5
Townsend's big-eared bat (<i>Plecotus townsendii</i>) Habitat: Caves, caverns, old mines	X				X					
Wolverine (<i>Gulo gulo</i>) Habitat: Alpine tundra and high-elevation boreal and coniferous forests with deep persistent spring snow		X				X			Y	W-6
Big Game Species										
Elk		X				X			Y	W-7
Whitetail		X				X			Y	W-7
Mule Deer		X				X			Y	W-7

Wildlife	Impact								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
Bighorn Sheep	X				X					
Other										

Comments:

W-1 The project area is 15 miles south of the Northern Continental Divide Ecosystem grizzly bear recovery area and is in the 'occupied' grizzly bear habitat as mapped by grizzly bear researchers and managers to address increased sightings and encounters of grizzly bears in habitats outside of recovery zones (Wittinger et al. 2002). Individual animals could occasionally use the project area while dispersing or foraging, and they could be displaced by project-related disturbance if they are in the area during proposed activities. No direct effects to grizzly bears would be anticipated for any activities conducted during the denning period. Some disturbance of grizzly bears could be possible with any activities that may occur during the non-denning period. Hiding cover would be reduced on 276 acres. Increases in restricted road (approx. 3 miles) would occur with the proposed activities, but no changes in open roads or motorized human access. No appreciable reductions in security habitat would occur. Effects to grizzly bears associated with habitat modification and increases in non-motorized access would be additive to the effects associated with past timber harvesting in the cumulative-effects analysis area as well as any ongoing harvesting. Given their large home range sizes, and manner in which they use a broad range of forested and non-forested habitats, the proposed activities and alterations of forest vegetation on the project area would have minor effects on grizzly bears.

W-2 The project area contains approximately 342 acres of potential Canada lynx habitat, which is mostly summer foraging (167 acres), with smaller amounts of winter foraging habitats (73 acres), and other suitable habitats (9 acres). There are approximately 93 acres of temporary non-suitable habitat in the project area, including areas that were harvested in the recent past that should soon become suitable habitats for lynx as young regenerating trees continue to grow. Proposed activities would occur on approximately 105 acres of summer foraging, 10 acres of winter foraging, 4 acres of other suitable habitats and 26 acres of temporary non-suitable habitats. The majority of the stands proposed for treatment would likely drop below the 40% canopy closure threshold that differentiates between suitable and temporary non-suitable habitats due to anticipated retention levels, harvesting corridors, skid trails, damage to sub-merchantable trees, landings, and low original stand density. Thus roughly 62% of the lynx habitats in the project area would be temporarily unsuitable for lynx following proposed treatments. The remaining lynx habitats would be largely foraging habitats. The retention of patches of advanced regeneration of shade-tolerant trees, such as sub-alpine fir and Engelmann spruce in foraging habitats, would break-up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx. Coarse woody debris would be retained (emphasizing retention of some logs 15 inches dbh and larger) to provide some horizontal cover and security structure for lynx. In the short-term, lynx use of the project area could decline due to the resulting openness in the project area. The areas proposed for harvest would be expected to regenerate and have sufficient growth to provide cover and forage for

potential prey species within 10-15 years. Proposed activities would further reduce forested connectivity; some connectivity would be retained along riparian areas and through unharvested patches between harvested units. Proposed habitat modification would be additive to the effects associated with past timber harvesting in the cumulative-effects analysis area as well as any ongoing harvesting.

W-3 Approximately 21 acres of potential riparian and 28 acres of potential upland fisher habitats exist in the project area. Within the cumulative effects analysis area, there are roughly 14,524 acres that would be classified as upland (more than 100 feet from Class 1 and more than 50 feet from Class 2 streams) and 1,032 acres that would be classified as riparian that are associated with the 87 miles of streams in the cumulative effects analysis area. On DNRC-managed lands, 99% of the potential riparian fisher habitats in the cumulative effects analysis area are providing structural habitat attributes that would facilitate use by fisher. Approximately 10 acres of potential upland habitat and no riparian habitats would receive treatments that would reduce canopy closure and would likely be too open to be used by fisher. No changes in open roads would be anticipated; trapping pressure and the potential for fisher mortality could likely not change. The amount of the preferred riparian fisher cover types meeting structural requirements for fishers at the cumulative-effects analysis area would not change. Reductions in upland habitats on DNRC-managed lands would further reduce the amount of suitable upland fisher habitats in the cumulative effects analysis area. These reductions would be additive to the losses associated with past timber harvesting in the cumulative-effects analysis area as well as any ongoing harvesting.

W-4 There are approximately 297 acres of potential flammulated owl habitats in ponderosa pine and dry Douglas-fir stands across the project area. Portions of the project area and cumulative effects analysis area have been harvested in the recent past, potentially improving flammulated owl habitat by creating foraging areas and reversing a portion of the Douglas-fir encroachment and opening up stands of ponderosa pine; however retention of large ponderosa pine and/or Douglas-fir was not necessarily a consideration in some of these harvest units, thereby minimizing the benefits to flammulated owls. Flammulated owls can be tolerant of human disturbance (McCallum 1994), however the elevated disturbance levels associated with proposed activities could negatively affect flammulated owls should activities occur when flammulated owls are present. Proposed activities could overlap the nestling and fledgling period. Since some snags would be retained, loss of nest trees would be expected to be minimal. Proposed activities on 132 acres of potential flammulated owl habitats would open the canopy while favoring Douglas-fir and ponderosa pine. The more open stand conditions, the retention of fire adapted tree species, and the maintenance of snags would move the project area toward historical conditions, which is preferred flammulated owl habitat. Across the cumulative effects analysis area, modifications to habitat have altered flammulated owl habitats; proposed modifications associated with this alternative would be additive to the effects of past timber management as well as any ongoing harvesting.

W-5 Roughly 195 acres of pileated woodpecker nesting habitat exist in the project area. Disturbance to pileated woodpeckers could occur if proposed activities occur during the nesting period. Harvesting would reduce forested habitats for pileated woodpeckers in the project area.

Roughly 82 acres of potential habitat would be too open to used by pileated woodpeckers following proposed treatments. Elements of the forest structure important for nesting pileated woodpeckers, including snags, coarse woody debris, numerous leave trees, and snag recruits would be retained in the proposed harvest areas. Since pileated woodpecker density is positively correlated with the amount of dead and/or dying wood in a stand (McClelland 1979), pileated woodpecker densities in the project area would be expected to be reduced on 276 acres. Across the cumulative effects analysis area, reductions to pileated woodpecker associated with this alternative would be additive to the effects of past timber management as well as any ongoing harvesting.

W-6 Generally wolverines are found in sparsely inhabited remote areas near treeline characterized by cool to cold temperatures year round and rather deep and persistent snow well into the spring (Copeland et al. 2010). The availability and distribution of food is likely the primary factor in the large home range sizes of wolverines (Banci 1994). Approximately 491 acres in the project area appear to support persistent spring snow that could be suitable for wolverine use. Individual animals could occasionally use lands in the project area while dispersing or possibly foraging, and they could be displaced by project-related disturbance if they are in the area during proposed activities. However, given their large home range sizes (~150 sq. mi. -- Hornocker and Hash 1981), and manner in which they use a broad range of forested and non-forested habitats, the proposed activities and alterations of forest vegetation on the project area would have negligible influence on wolverines.

W-7 The project area contains spring, summer, and fall range for deer and elk. No winter range for deer, elk, or moose exists in the project area. Disturbance created by mechanized logging equipment and trucks could temporarily displace big game animals during periods of operation for 2 to 4 years. Proposed activities would not prevent big game movement through the project area and could stimulate browse production in the proposed units. Hiding cover and thermal cover would be decreased, which could increase sight distances and potential for increased disturbance to big game. Non-motorized access could increase with the proposed increase in restricted roads, but no changes in availability of security habitats would occur. Modifications to big game habitats would be additive to the effects of past timber management as well as any ongoing harvesting.

Wildlife Mitigations:

- A DNRC biologist will be consulted if a threatened or endangered species is encountered to determine if additional mitigations that are consistent with the administrative rules for managing threatened and endangered species (ARM 36.11.428 through 36.11.435) are needed.
- Motorized public access will be restricted at all times on restricted roads that are opened for harvesting activities; signs will be used during active periods and a physical closure (gate, barriers, equipment, etc.) will be used during inactive periods (nights, weekends, etc.). These roads and skid trails would be reclosed to reduce the potential for unauthorized motor vehicle use.

- Snags, snag recruits, and coarse woody debris will be managed according to *ARM 36.11.411* through *36.11.414*, particularly favoring ponderosa pine. Clumps of existing snags could be maintained where they exist to offset areas without sufficient snags.
- Contractors and purchasers conducting contract operations will be prohibited from carrying firearms while on duty.
- Food, garbage, and other attractants will be stored in a bear-resistant manner.
- Design seed tree units such that no point within those units would be more than 600 feet from visual screening or topographic breaks that would hide a grizzly bear.
- Provide connectivity by maintaining corridors of unharvested and/or lighter harvested areas along riparian areas, ridge tops, and saddles.
- Retention of patches of advanced regeneration of shade-tolerant trees, such as sub-alpine-fir and spruce, in units in lynx habitats would break-up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx.

AIR QUALITY: The proposed project is not within a class 1 airshed. A minor amount of particulate would be generated with slash disposal.

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Smoke	X				X				X					
Dust	X				X				X					
Action														
Smoke		X				X				X				
Dust		X				X				X				

Air Quality Mitigations: Any burning would be done with compliance from the DEQ open burning requirements and cooperation with the Montana/Idaho airshed requirements.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics	X				X				X					
Demands on Environmental	X				X				X					

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Resources of Land, Water, or Energy														
Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics		X				X				X				
Demands on Environmental Resources of Land, Water, or Energy		X				X				X				

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.*

- None

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	X				X				X					
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment	X				X				X					
Local Tax Base and Tax Revenues	X				X				X					
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities	X				X				X					
Density and Distribution of	X				X				X					

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
population and housing														
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					
Action														
Health and Human Safety		X				X				X				
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment		X				X				X				
Local Tax Base and Tax Revenues		X				X				X				
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities	X				X				X					
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					

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.

- None

Other Appropriate Social and Economic Circumstances:

Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

No Action: The No Action alternative would not generate any return to the trust at this time. The State tract would continue to be leased for grazing.

Action: The timber harvest would generate additional revenue for the Common School Trust. The estimated return to the trust for the proposed harvest is \$75,000 based on an estimated harvest of 10,000 tons and an overall stumpage value of \$7.50 per ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

DNRC 1996. State forest land management plan: final environmental impact statement (and appendixes). Montana Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, Montana.

DNRC. 2010. Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan: Final EIS, Volume II, Forest Management Bureau, Missoula, Montana.

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?

None have been identified.

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

None have been identified.

Environmental Assessment Checklist Prepared By:

Name: Brian Robbins
Title: Anaconda Unit Manager
Date: 6/9/2016

Finding

Alternative Selected

The action alternative which would harvest approximately 1.5 MMBF from 276 acres is the selected alternative.

Significance of Potential Impacts

No significant or unacceptable impacts to water, soil, fisheries or Threatened, Endangered and Sensitive species are likely to occur as a result of the proposed action.

The proposed timber sale is similar to past projects that have occurred in the area. Since the EA does not identify future actions that are new or unusual, the proposed timber sale is not setting a precedent for future action with significant impacts.

Taken individually and cumulatively, the identified impacts of the proposed timber sale are within threshold limits. Proposed timber sale activities are common practices and none of the project activities are being conducted on important fragile or unique sites.

The proposed timber sale conforms to the management philosophy adopted by the DNRC in the SFLMP and is in compliance with existing laws, policies, guidelines, and standards to this type of proposed action.

Need for Further Environmental Analysis

EIS

More Detailed EA

No Further Analysis

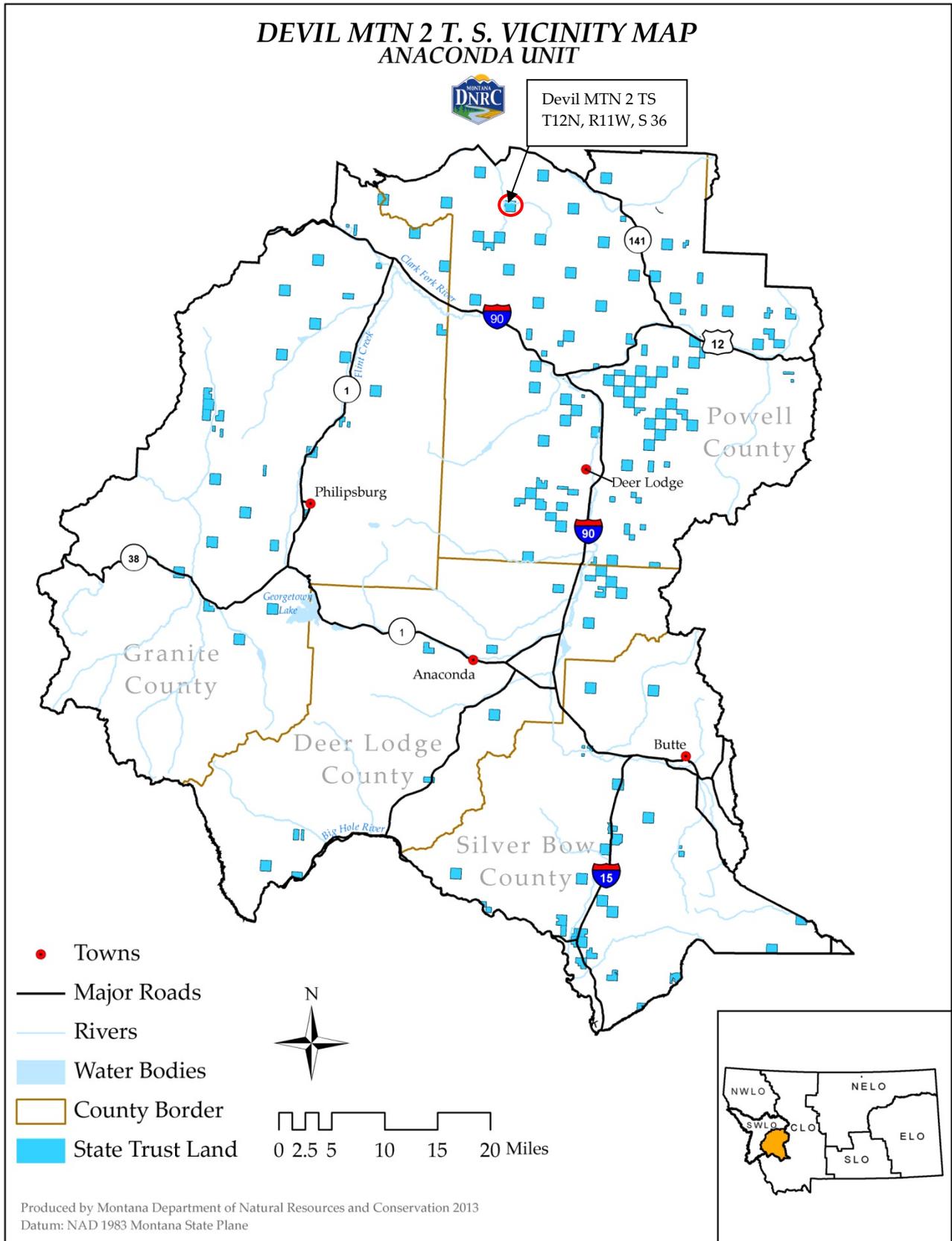
Environmental Assessment Checklist Approved By:

Name: Jon M. Hayes

Title: Forest Management Program Supervisor

Date: September 27, 2016

Signature: /s/ Jon M. Hayes



A-2: Timber Sale Harvest Units

