

## Environmental Assessment Checklist

**Project Name: Neagle Creek Timber Salvage**  
**Proposed Implementation Date: July 2018**  
**Proponent: Dillon Unit, Central Land Office, Montana DNRC**  
**County: Beaverhead**

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### Type and Purpose of Action

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**Description of Proposed Action:**

The Dillon Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Neagle Creek Timber Salvage. The project is located approximately 3 air miles southwest of Polaris, 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			
Public Buildings			
MSU 2 <sup>nd</sup> Grant			
MSU Morrill			
Eastern College-MSU/Western College-U of M	<b>T5S R13W S24</b>	<b>640</b>	<b>79.3</b>
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:

- Capture diminishing value of dead timber.
- Improve stand health and vigor.
- Reduce fuel loading.
- Reduce conifer encroachment in sage grouse habitat.
- Generate revenue for the State Normal School Trust.
- Contribute to the annual targets of timber harvest volumes of DNRC and the Central Land Office. DNRC is required by state law (*77-5-221 through 223, MCA*) to sell approximately 57.6 Million board feet (MMbf) of timber annually and produce revenue over time.

Proposed activities include:

Action	Quantity
<b>Proposed Harvest Activities</b>	
	# Acres
Clearcut	14.2
Seed Tree	
Shelterwood	43
Selection	
Commercial Thinning	
Salvage	
<b>Total Treatment Acres</b>	
<b>Proposed Forest Improvement Treatment</b>	
	# Acres
Pre-commercial Thinning	
Planting	
<b>Proposed Road Activities</b>	
	# Miles
New permanent road construction	
New temporary road construction	0.3
Road maintenance	2.7
Road reconstruction	0.3
Road abandoned	
Road reclaimed	
<b>Other Activities</b>	
	#Acres
Noncommercial conifer encroachment slashing	22.1

<b>Duration of Activities:</b>	3 years
<b>Implementation Period:</b>	July 2018 – December 2020

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)
- and all other applicable state and federal laws.

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## Project Development

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**SCOPING:**

- DATE:
  - February 23, 2017 – March 23, 2017
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website:  
<http://dnrc.mt.gov/PublicInterest/Notices/Default.asp>
  - Statewide Scoping List (ver. 1/27/2017)
  - Adjacent landowners and businesses
  - Local industry professionals
  - Legal ad in Dillon Tribune
- AGENCIES SCOPED:
  - Montana Fish, Wildlife & Parks
  - U.S. Forest Service Beaverhead National Forest
  - U.S. Bureau of Land Management Dillon Field Office
- COMMENTS RECEIVED:
  - How many: During the 30 day public comment period, DNRC had 3 face to face visits to discuss the project. Two of the meetings were with the adjacent landowners granting access for the project and the third was a visit from the local FWP biologist.
  - Concerns:
    - All three individuals were supportive of the project.
    - Concerns included: control of noxious weed populations,
    - clean up of dead and down timber,
    - addressing conifer encroachment and regeneration of quaking aspen.
  - Results (how were concerns addressed):
    - Noxious weed management is included in all DNRC timber harvest projects.
    - Project itself is meant to address salvage of dying and dead timber.

DNRC specialists were consulted, including: Jeff Schmalenberg (Resource Management Supervisor), Mike Anderson (Fisheries Biologist), Patrick Rennie (Archaeologist), and Ross Baty (Wildlife Biologist).

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](http://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.

A Short-term Exemption from Montana's Surface Water Quality Standards (318 Authorization) may also be required from DEQ if activities such as replacing a bridge on a stream would introduce sediment above natural levels into streams.

- **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.
- **Montana Department of Fish, Wildlife and Parks (DFWP)**- A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include:
  - An existing ford of an un-named stream. The stream banks would be armored with gravel and the road surface on one side of the stream would be raised with a compacted gravel lift.

## **ALTERNATIVES CONSIDERED:**

**No-Action Alternative:** Under the no-action alternative, no timber would be harvested and therefore no revenue would be generated from the project area for the Eastern College-MSU/Western College-U of M trust. Fire suppression, noxious-weed control, limited recreational use, and ongoing management requests may still occur. Natural events, such as plant succession, tree mortality due to insects and diseases, windthrow, down fuel accumulation, in-growth of ladder fuels, and wildfires would continue to occur.

**Action Alternative :** Under the action alternative, approximately 200 Mbf of timber would be harvested from 51 acres, generating revenue for the Eastern College-MSU/Western College-U of M trust and forest improvement fund. Of the 51 acres harvested, 7.5 acres of mixed Douglas-fir – aspen stands would be clear cut to encourage aspen regeneration. Approximately 22 acres of sapling sized Douglas-fir encroaching into the sage brush would be slashed to improve sage grouse habitat. Road work would include 2.7 miles of general maintenance, 0.3 miles of new temporary construction and 0.3 miles of reconstruction of an existing road. A stream ford located along the private property portion of the access route would be improved to lessen sediment delivery to the stream from vehicle traffic. Upon completion of harvest activities, all skid trails would be physically closed to motorized use and roads would be stabilized with drainage features and grass seeded.

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## 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:** Approximately 2/3rds of the project area is non-forest consisting mainly of sagebrush grassland. Douglas-fir is the most prevalent cover type of the forested portion of the project area and Douglas-fir/pinegrass, pinegrass phase (PSME/CARU-CARU) the dominant habitat type. These Douglas-fir stands are represented by Fire Group 6-moist Douglas-fir habitat types where the historic, mean fire interval was 42 years. Mature stands of Douglas-fir throughout the project area are in a state of decline due to a combination of repeated spruce budworm attack and drought stress. Fire suppression during the last century has allowed young stands of Douglas-fir to encroach into the sagebrush grassland forming dense stands of sapling sized trees. Much of the lodgepole at midslope elevations has succumbed to mountain pine beetle attack while lodgepole at the higher elevations has managed to survive. Aspen stands occur scattered over the project area, some maintaining as stable stands, mainly in riparian areas and others as seral stands with Douglas-fir coming in as the climax species.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Noxious Weeds	x				x				x				N/A	
Rare Plants	x				x				x				N/A	
Vegetative community		x			x					x			No	1
Old Growth	x				x				x				N/A	
<b>Action</b>														
Noxious Weeds		x				x				x			Yes	2
Rare Plants		x			x				x				Yes	3
Vegetative community		x				x				x			Yes	1
Old Growth		x				x				x			No	4

*Comments:*

- Under either the no action or action alternative, the vegetative community would continue to change. With the no action alternative, overstory trees will continue to decline and die resulting in more water, light, and nutrients available for existing seedlings, saplings, shrubs, and forbs. Down wood loading would increase under the no action alternative as overstory trees die and fall. Under the action alternative, declining and dead overstory trees would be harvested, allowing increased availability of water, light, and nutrients for existing vegetation. Harvesting would lessen potential down wood loading thus reducing fire severity in the event of a wildland fire. In harvested stands, Douglas-fir would be the primary leave species, with the healthiest trees, those showing resistance to budworms and drought, selected for leave. Approximately 22 acres of Douglas-fir saplings encroaching into the sagebrush-grass land would be slashed, piled

and burned. Because change within the vegetative community will occur under either alternative, it is expected that direct, secondary and cumulative impacts would be low under either alternative.

2. Soil disturbance from logging and road maintenance activities could increase the potential for the spread of noxious weeds within the project area.
3. Two species of concern are known to occur either in or near the project area. Lemhi beardtongue, a perennial flower has been documented on private property adjacent to the project area but is not known to exist within the project area. Whitebark pine, a tree species, occurs within proposed harvest units.
4. Of the 5 units proposed for harvest, unit 5 was the only one that meets the old growth criteria used by DNRC (Green, et. al.). This unit is 3 acres in size and contains evidence of having once been an aspen dominated stand converting to Douglas-fir over a long period of time. Other stands within the project area (34 acres), not proposed for harvest, may currently meet old growth criteria. Most of these stands will not remain old growth if the current rate of mortality due to insect infestation does not slow significantly. These potential old growth stands are located on steep, rocky slopes and are not economical to harvest given the limits of currently logging technology. The harvest of 3 acres of old growth, representing less than 1/100<sup>th</sup> of 1% of old growth on the Dillon Unit, is expected to have very low direct, secondary and cumulative impacts.

*Vegetation Mitigations:*

- The spread of noxious weeds from the use of mechanized equipment and ground disturbance would be minimized, but not completely eliminated by the washing of equipment before entering the site and grass seeding disturbed soils.
- If Lemhi beardtongue is identified within areas of proposed project activity, reasonable measures would be taken to avoid the area in order to preserve the plant.
- Whitebark pine trees when found within harvest units have been marked for leave. Unmarked whitebark pine trees will be contractually excluded from harvest.

**SOIL DISTURBANCE AND PRODUCTIVITY:**

**Soil Disturbance and Productivity Existing Conditions**

Harvest units within the proposed sale area contain six soil maps units as described by the Horse Prairie-South Valley Area – Part of Beaverhead County, Montana soil survey (MT612). These soils are predominately sandy-loams with very high stone content. As a result, soils have a low risk of compaction, displacement and erosion with risk increasing as local slope increases. Productivity is low due to cold and dry climatic conditions. No slope instability was observed during project area review (June 2017).

The project area has been previously managed with existing skid trails and log landing showing signs of natural soil amelioration of previous compaction. No erosion on existing skid trails or landings was evident.

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		
<b>No-Action</b>														
Physical Disturbance (Compaction and Displacement)	X				X					X				
Erosion	X				X				X					
Nutrient Cycling	X				X				X					
Slope Stability	X				X				X					
Soil Productivity	X				X					X				
<b>Action</b>														
Physical Disturbance (Compaction and Displacement)		X			X					X			Y	1
Erosion		X			X				X				Y	2
Nutrient Cycling	X				X				X				NA	
Slope Stability	X				X				X				NA	
Soil Productivity		X			X					X			Y	3

*Comments:*

1. The Action Alternative presents a low risk of direct, secondary and cumulative impacts to soil resources from compaction and displacement. Monitoring of DNRC timber harvest shows the level of total detrimental soil impacts 13.2% of a harvest area using traditional ground based operations (DNRC 2011). Detrimental soil impacts are considered substantive when they exceed 20 percent of a harvest area (DNRC 1996). Soil productivity is expected to be maintained when soil function is maintained within 80% of a harvest unit.
2. The Action Alternative presents a low risk of direct and secondary impacts to soil resources for erosion. Standard implement of forest management BMP's to control erosion concurrent with harvest activities would mitigate any erosion concerns in the project area.
3. Previous skid trails and log landing sites would be reused as feasible to prevent additional cumulative impacts to soil productivity within the project area. All impacts to soil resources would be below 20% of the harvest area. Low level direct, secondary, and cumulative effects are expected from implementing the action alternative. Soil productivity is expected to be maintained when soil function is maintained within 80% of a harvest unit (DNRC, 1996).

*Soil Mitigations:*

- Ground based equipment operations limited to slopes less than 45%.
- Limiting season of use to periods when soils are frozen or snow covered to minimize soil compaction and maintain drainage features.
- Forest Officer and Purchaser would agree to a general skidding plan prior to equipment operations and designate skid trails within complex areas.

- Reuse previous skid trails and log lands identified by the forest officer as feasible.
- Slash greater than 3” in diameter would be left at a rate of 5 tons an acre within the harvest units.
- Skidding at elevational low points in draw bottoms would be prohibited.
- Road drainage would be improved on existing and reconstructed roads with new construction complying with Forest Management BMP's

**WATER QUALITY AND QUANTITY:**

**Water Quality and Quantity Existing Conditions**

Neagle Creek is a small (~980 acre), perennial, non-fish bearing headwater tributary to upper Grasshopper Creek (HUC 100200020102). The water use classification for Grasshopper Creek is B-1 and was listed on the 2018 303D list as not fully supporting aquatic life and primary use recreation due to sedimentation from alterations in stream-side vegetation, low flow alternations and lead contamination.

The runoff regime is typical of a snowpack dominated catchment is the intermountain west with peak flow exhibited in April and baseflows supported by riparian storage through dry summer months. Neagle Creek has stable banks with established riparian communities of Aspen and Dogwood for its entirety to the confluence with Grasshopper Creek. Historic grazing management is evident is portions of the channel. All Neagle Creek’s water has been appropriated and is diverted at various points below state owned lands.

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		
<b>No-Action</b>														
Water Quality	X				X					X				
Water Quantity	X				X					X				
<b>Action</b>														
Water Quality		X				X				X				1
Water Quantity	X				X					X				2

*Comments:*

1. Due to the harvest system utilized, location of harvest units relative to stream channels, magnitude of new road construction, implementation of Forest Management BMP's, and low annual precipitation within the project area, there is a low-risk of low level direct, secondary or cumulative water quality impacts.
2. Forest stands are not likely to be a major influence on the hydrology and flow regimes of the draws and streams draining the proposed timber sale area. The proposed harvest is not expected to substantially decrease the level of canopy interception or evapotranspiration at a watershed scale resulting in no detrimental increases in water yield. Due to these factors, no direct, secondary or cumulative impacts to water quantity are anticipated under the proposed action.



*Water Quality & Quantity Mitigations:*

- Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
- Montana Administrative Rules for Forest Management and Streamside Management Zones would be implemented.
- Ephemeral draw crossings would be kept to a minimum, and skidding down topographic convergences (draw bottoms) would be prohibited.
- Major skid trails would be grass seeded, closed with slash and debris and/or barriers, and adequate drainage would be provided.

**FISHERIES:**

**Fisheries Existing Conditions:** Due to the intermittent and discontinuous characteristics of the streams in the state parcel, no fish were observed or are present in the project area. No further analysis is warranted.

**WILDLIFE:**

For this analysis, direct and indirect effects were considered within the 640-acre project area where the majority of project-related activities and disturbance would occur. Cumulative effects were considered for the project area and eight additional surrounding parcels totaling nine sections at approximately 5,760 acres. Species occurrence records in the Montana Natural Heritage Program Database were queried for federally listed threatened, endangered and non-listed sensitive species (May 18, 2017). Information regarding species identified in that query is provided below. The Montana Sage Grouse Habitat Conservation Program consulted March 8, 2017. The project occurs within “general” sage grouse habitat as defined by the Executive Order. The Program recommended reclamation of disturbed sites and control of noxious weeds and invasive plant species such as cheatgrass.

**No-Action:** Under the no action alternative, no vegetation would be manipulated. Cover provided by conifer trees would remain unchanged in the short-term. Over the next several decades in the absence of natural disturbance, such as wildfire, conifers would continue to encroach into adjacent grassland habitat and decadent aspen stands. Species that prefer cover provided by conifers would benefit, whereas species preferring more open rangelands and aspen stands would not.

**Action Alternative (see Wildlife table below):**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>Threatened and Endangered Species</b>														
<b>Grizzly bear</b> <i>(Ursus arctos)</i>	X				X				X					1.

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Wildlife	Impact												Can Impact be Mitigated?	Comment Number	
	Direct				Secondary				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High			
Habitat: Recovery areas, security from human activity															
<b>Canada lynx</b> ( <i>Felix lynx</i> ) Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone		X				X				X					2.
<b>Wolverine</b> ( <i>Gulo gulo</i> )	X				X				X						3.
<b>Sensitive Species</b>															
<b>Bald eagle</b> ( <i>Haliaeetus leucocephalus</i> ) Habitat: Late-successional forest within 1 mile of open water	X				X				X						3.
<b>Black-backed woodpecker</b> ( <i>Picoides arcticus</i> ) Habitat: Mature to old burned or beetle-infested forest	X				X				X						3.
<b>Black-tailed prairie dog</b> ( <i>Cynomys ludovicianus</i> ) Habitat: grasslands, short-grass prairie, sagebrush semi-desert	X				X				X						3.
<b>Flammulated owl</b> ( <i>Otus flammeolus</i> ) Habitat: Late-successional ponderosa pine and Douglas-fir forest	X				X				X						3.
<b>Gray Wolf</b> ( <i>Canis lupus</i> ) Habitat: Ample big game populations, security from human activities	X				X				X						3.

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Wildlife	Impact												Can Impact be Mitigated?	Comment Number		
	Direct				Secondary				Cumulative							
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High				
<b>Harlequin duck</b> <i>(Histrionicus histrionicus)</i> Habitat: White-water streams, boulder and cobble substrates	X				X				X							3.
<b>Northern bog lemming</b> <i>(Synaptomys borealis)</i> Habitat: Sphagnum meadows, bogs, fens with thick moss mats	X				X				X							3.
<b>Mountain plover</b> <i>(Charadrius montanus)</i> Habitat: short-grass prairie & prairie dog towns	X				X				X							3.
<b>Peregrine falcon</b> <i>(Falco peregrinus)</i> Habitat: Cliff features near open foraging areas and/or wetlands	X				X				X							3.
<b>Pileated woodpecker</b> <i>(Dryocopus pileatus)</i> Habitat: Late-successional ponderosa pine and larch-fir forest		X			X				X							4.
<b>Greater Sage grouse</b> <i>(Centrocercus urophasianus)</i> Habitat: sagebrush semi-desert		X			X				X							4.
<b>Townsend's big-eared bat</b> <i>(Plecotus townsendii)</i> Habitat: Caves, caverns, old mines	X				X				X							3.
<b>Big Game Species</b>																
<b>Elk</b>		X				X				X						4.

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Whitetail	X				X				X					
Mule Deer		X				X				X				4.
Other														

*Comments:*

1. Grizzly Bear – 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 approximately 87 miles east of the project area. The project area is currently considered outside of occupied habitat (Interagency Occupied Habitat Map, September 2002). Human access levels in this area are low because motorized access is controlled through adjacent private ranches. This proposal will result in no net increase of roads. Adverse direct, indirect and cumulative impacts to grizzly bears as a result of this project are expected to be minimal.

2. Canada Lynx – The proposed project area occurs along a grassland/forest ecotone, and is located along fringes of suitable lynx habitat. Habitats high in coarse woody debris that are preferred for denning, and large acreages of dense conifer regeneration at high elevations that are preferred for foraging are marginal to non-existent in the project area. Naturally induced fragmentation (landscape level fires and natural openings) along with high level of interspersions of native grassland habitat and dry forest types are present in the project area and provide marginal habitat for lynx. Within the project area there are 170 acres of suitable lynx habitat present. The specific harvest units to be treated consist of approximately 57 acres (34% of the 170 existing acres). It is estimated that all of the treated acres of suitable lynx habitat would be converted to temporary nonsuitable habitat. It is estimated the stands being reduced to temporary nonsuitable condition would take approximately 12-15 years to regenerate to sufficient canopy heights to return these acres to a “suitable” habitat class. While approximately 57 acres would be converted in the project area from a suitable to temporary non-suitable habitat condition, direct, indirect, and cumulative impacts to lynx as a result of this project are expected to be low due to the marginal habitat quality of existing habitat and small acreage that would be treated.

3. Habitat conditions are not present on the project area for this species, and/or proposed activities would be expected to have no related effects.

4. Habitat for these species is potentially present on the project area and mechanized disturbance associated with vegetation treatments could cause minor disturbance or displacement for short periods during activities. Habitat attributes associated with coniferous and deciduous cover removal in minor amounts could have minor adverse or minor positive effects on these species. Anticipated direct, indirect, and cumulative effects associated with the action alternative would be expected to be minor.

*Wildlife Mitigations:*

- A minimum of one snag and one snag recruitment tree per acre, of the largest diameter class, would be retained. Cull live trees and cull snags would be retained where possible given human safety considerations.
- Retain at least one large log of the largest diameter available per acre to comply with lynx HCP commitment LY-HB2(1).
- Retain 5-10 tons per acre of coarse woody material.
- Retain patches of advanced regeneration comprised of shade-tolerant tree species to provide habitat structure, and maintain these tree species as a part of the stand species mix to comply with HCP commitment LY-HB4(2).
- Project would be completed in an expeditious manner.
- Following project work, temporary roads would be reclaimed and existing restricted roads would remain closed to motorized public access.

**AIR QUALITY:**

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Smoke	x				x				x					
Dust	x				x				x					
<b>Action</b>														
Smoke		x				x				x			Y	1
Dust		x				x				x			Y	2

*Comments:*

1. This project is located within Montana Airshed Group 7, which encompasses major portions of eastern Montana and is not within an impact zone as described by the Montana/Idaho Airshed Group. Under the Action Alternative, slash piles consisting of tree limbs, tops, and other vegetative debris would be created throughout the project area during harvesting. These slash piles would ultimately be burned after harvesting operations have been completed.
2. Harvesting and hauling logs could create dust, which may affect local air quality. However, because dust would be localized to skid trails and haul roads and the project is relatively small, effects to air quality because of dust generated during harvest activities are expected to be low.

*Air Quality Mitigations:*

- Burning within the project area would be short in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group.

Thus, direct, secondary and cumulative effects to air quality due to slash pile burning associated with the proposed action would be minimal.

- The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days.

**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		
<b>No-Action</b>														
Historical or Archaeological Sites	x				x				x					
Aesthetics		x				x				x			N	1
Demands on Environmental Resources of Land, Water, or Energy	x				x				x					
<b>Action</b>														
Historical or Archaeological Sites		x				x				x			Y	2
Aesthetics			x			x				x			Y	3
Demands on Environmental Resources of Land, Water, or Energy		x				x			x				Y	4

*Comments:*

1. The project area is located on a prominent topographic area, approximately 1 mile west of the Pioneer Mountains National Scenic Byway and is highly visible on the mountain side above the town of Polaris. Stands of dead trees detract from the otherwise pleasant views of the area. Under the no action alternative, dead trees would remain standing in place until they fall on their own or are toppled in a wind event. This would be additional to dead standing and dying trees on adjacent Forest Service land and would contribute to an overall decline in aesthetics.
2. A Class I (literature review) level was conducted by the DNRC staff archaeologist for the area of potential effects (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search results revealed that no cultural or paleontological resources have been identified in the APE. Because of the comparatively steep terrain, and because the local geology is not likely to produce caves, rock shelters, or sources of tool stone, no additional archaeological investigative work will be conducted. However, if previously unknown cultural or paleontological materials are identified during project

related activities, all work will cease until a professional assessment of such resources can be made.

3. There would be both positive and negative impacts to aesthetics associated with implementation of the project. Positive impacts include cleaning up dead standing timber and a greening up of the hillside with regeneration of both conifer and aspen stands. Negative impacts include visibility of landings, slash piles and skid trails. Negative impacts would be of relatively short duration as slash piles would be burned, landings grass seeded and skid trails re-vegetate. Thus, direct impacts to aesthetics would be expected to be moderate in nature and secondary and cumulative impacts to be low given the projects small size.
4. The project area is leased for grazing, outfitted hunting and a groomed snowmobile trail. It is expected that impacts to these other uses of the resource by implementation of the project would be minor and of short duration. It is not expected that cattle would be displaced by logging operations and once harvest is complete, more area will come into grass production with a reduction in canopy cover. The snowmobile trail currently uses portions of the same grade as would be used by the haul route and could have minor impacts due to log hauling if winter logging occurs. Logging operations could have a moderate to high impact on the outfitted hunting but it would be of very short duration.

*Mitigations:*

- If previously unknown cultural or paleontological materials are identified during project related activities, all work would cease until a professional assessment of such resources can be made.
- Following harvest, some segments of temporary road may be re-contoured. Slash piles would be burned and all roads and landing would be grass seeded.
- During active harvest operations:
  - All gates would be left open or closed as found
  - Logging and log hauling may be seasonally restricted to week days only as needed to avoid conflict with the snowmobile trail and outfitted hunting.
  - During the winter months, plowing of the haul route would be conducted in such a way as to accommodate the snowmobile trail and hauling may be prohibited during weekends if deemed necessary.

**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.*

- Neagle Creek CEA, 1996

## 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		
<b>No-Action</b>														
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					
<b>Action</b>														
Health and Human Safety		x				x				x			Y	1
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	x				x				x					2



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		
Recreational and Wilderness Activities														
Density and Distribution of population and housing	x				x				x					
Social Structures and Mores	x				x				x					
Cultural Uniqueness and Diversity	x				x				x					

*Comments:*

1. Some minor additional short-term risk to health and human safety could be present related to increases in logging traffic during operations.
2. Due to the relatively small size of the proposed timber sale, remote location, difficult public access, and light amount of recreational use, no measurable direct, indirect, or cumulative effects would be likely.

*Mitigations:*

- Signs at appropriate locations on public roads would be used to warn motorists and local residents of potential presence of log truck traffic.

**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.

**Action:** The timber harvest would generate additional revenue for the Eastern College-MSU/Western College-U of M Trust. The estimated return to the trust for the proposed harvest is \$27,210 based on an estimated harvest of 200 thousand board feet (1,500 tons) and an overall stumpage value of \$18.14 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.
- DNRC, 2011. DNRC compiled soils monitoring report on timber harvest projects, 2006-2010, 1<sup>st</sup> Edition. Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, MT
- Fisher, W.C., and A.F. Bradley. 1987. Fire Ecology of Western Montana Forest Habitat Types. USFS General Technical Report INT-223.
- Hagle, Susan, Gibson, K., Tunnock, S. 2003. Field Guide to Disease and Insect Pests of Northern and Central Rocky Mountain Conifers. USDA Forest Service. Northern Region. Missoula, MT. 197pp.
- Heyerdahl, E.K., R.F. Miller, and R.A. Parsons. 2006. History of fire and Douglas-fir establishment in a savanna and sagebrush–grassland mosaic, southwestern Montana, USA. *Forest Ecology and Management* 230(1):107-118.
- Pfister, R., B. Kovalchik, S. Arno, and R. Presby. 1977. Forest Habitat Types of Montana. USDA Forest Service. General Technical Report INT-34. Intermountain Forest and Range Experiment Station Ogden, UT. 174pp.

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

No

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

No

### Environmental Assessment Checklist Prepared By:

**Name: Jason Glenn**  
**Title: Forester**  
**Date: April 10, 2018**

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## Finding

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**Alternative Selected**

Upon review of the Checklist EA and attachments, I find the Action Alternative, as proposed, meets the intent of the project objectives as stated in the *Type and Purpose of Action*. The lands involved in this project are held by the State of Montana in trust for the support of specific beneficiary institutions and DNRC is required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run (*Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X Section 11; and, 77-1-212 MCA*). The Action Alternative was designed to be in full compliance of the State Forest Land Management Plan (SFLMP), the Administrative Rules for Forest Management (Forest Management Rules; ARM 36.11.401 through 471), and conservation commitments contained in the Selected Alternative in the Final EIS of the Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP) and associated Record of Decision (ROD), as well as other applicable state and federal laws.

### Significance of Potential Impacts

The identified resource management concerns have been fully addressed in the environmental analysis that was conducted. Specific project design features and various recommendations of the resource management specialists have been implemented to ensure that this project will fall within the limits of acceptable environmental change. For example, the project is designed to:

- Perform road maintenance and Best Management Practices (BMP) improvements on approximately 2.7 miles of existing road and improve and existing stream ford to reduce the potential for erosion and sediment delivery to streams.
- Upon completion of harvest activities, roads would be stabilized with drainage features and grass seeded.
- Retain coarse woody debris to be left on site in amounts recommended by Graham, et.al (1994) and fine debris as much as practicable, maintaining nutrient cycling in harvest units, helping maintain soil productivity, as well as to provide habitat substrates for wildlife.
- Limit the area of adverse soil impacts, equipment operations would be limited to periods when soils are dry (<20% soil moisture), frozen or snow covered (12" packed or 18" unconsolidated) as well as limited to slopes of <45%.
- Implement mitigation measures to reduce the proliferation of weeds including sowing grass seed on roads after harvesting, and applying herbicide along roadsides and on spots of weed outbreaks.
- Retain at least one large log of the largest diameter available per acre to comply with lynx HCP commitment LY-HB2(1).
- Retain 5-10 tons per acre of coarse woody material.
- Retain patches of advanced regeneration comprised of shade-tolerant tree species to provide habitat structure, and maintain these tree species as a part of the stand species mix to comply with HCP commitment LY-HB4(2).

### Need for Further Environmental Analysis

EIS

More Detailed EA

No Further Analysis

**Environmental Assessment Checklist Approved By:**

**Name: Tim Egan**

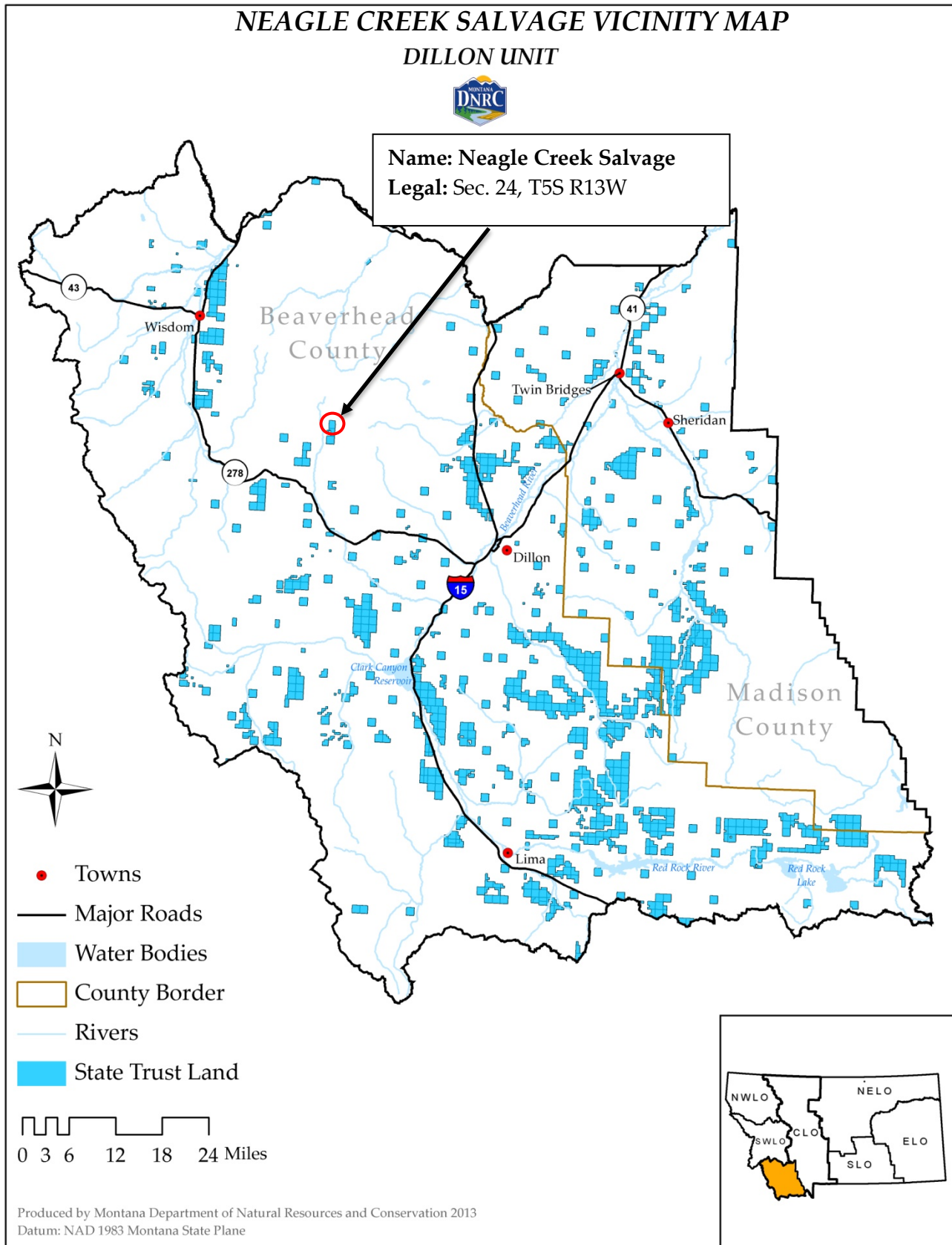
**Title: Unit Manager**

**Date: April 11, 2018**

**Signature: /s/ Timothy Egan**

## **Attachment A - Maps**

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units

