Elk Creek LA

Timber Sale

Environmental Assessment

Checklist

Plains Unit

Northwest Land Office

Montana Department of Natural Resources and Conservation

July 2025

Elk Creek LA Timber Sale

Environmental Assessment Checklist

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MEMORANDUM

To: Ty Colombo, Forest Management Supervisor

From: David Olsen, Plains Unit Resource Program Manager

Date: February 25, 2024

RE: Elk Creek Limited Access Timber Sale Objectives

Primary Objective

The primary objective of the Elk Creek Limited Access Timber Sale is to generate income for the Common Schools (CS) Trust. The parcel involved in this proposed project is in Section 16, T26N, R34W. The project would provide an estimated 1.0 MMBF of merchantable timber applied toward meeting the FY 2026 Northwestern Land Office timber sale volume target.

Secondary Objectives

Minimize losses in timber quality and available volume resulting from deteriorating stand conditions in the defined project area as well as the surrounding forested land.

Promote the continued presence and/or reestablishment of historically appropriate timber types on Trust Land included in this project.

Reduce fire hazard and associated risks of loss to the State of Montana and privately-owned land in the area.

Management Directives

In planning and preparing this project, requirements and specified actions as designated in the DNRC HCP shall be addressed, management direction from the State Forest Land Management Plan and Administrative Rules shall be followed, and all applicable Streamside Management Zones rules and regulations will be met. Montana Best Management Practices will be applied in all instances.

Environmental Assessment Checklist

Project Name: Elk Creek LA
Proposed Implementation Date: September 2025
Proponent: Plains Unit, Northwest Land Office, Montana DNRC
County: Sanders

Type and Purpose of Action

Description of Proposed Action:
IFG Timber LLC and the Plains Unit and of the Montana Department of Natural Resources and Conservation (DNRC) are proposing the Elk Creek LA Timber Sale. The project is located approximately 3 air miles south of Heron, MT (refer to Attachments vicinity map A-**1** and project map A-**2**) and includes the following sections:

Beneficiary	Legal Description	Total Acres	TreatedAcres
Common Schools	**S16 T26N R34W**	**200**	**105**
Public Buildings			
MSU 2nd 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:
- Move stands toward desired future conditions
- Emulate natural disturbance regimes
- Promote/establish regeneration

- Enhance stand growth and vigor
- Address insect and disease issues
- Reduce fuel loading/fire hazard
- Capture value of dead/dying timber
- Generate revenue for the trust beneficiaries

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	105
Shelterwood	
Selection	
Old Growth Maintenance/Restoration	
Commercial Thinning	
Salvage	
Total Treatment Acres	
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	
Planting	
Proposed Road Activities	# Miles
New permanent road construction	
New temporary road construction	1.1
Road maintenance	
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	4 Years
Implementation Period:	2025-2028

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.

Project Development

SCOPING:

- DATE:
  - May 2, 2024 to June 1 2024
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: https://dnrc.mt.gov/News/scoping-notices
  - Adjacent landowners, statewide scoping list (e-mail)
- AGENCIES SCOPED:
  - Montana Fish Wildlife and Parks, Montana tribal organizations, US Forest Service, US Fish & Wildlife Services, State of Montana
- COMMENTS RECEIVED:
  - How many: 1
  - Concerns: Silvicultural Prescriptions, Post Harvest Basal Area, Access
  - Results: I talked with the individual about what we were proposing for prescriptions and what the stand would have post harvest (trees per acre, basal area). I also addressed the access concern by explaining how limited access sales work within the DNRC.

DNRC specialists were consulted, including:

- Project Leader: Ty Colombo
- Archeologist: Patrick Rennie
- Wildlife Biologist: Victoria Forristal
- Hydrologist: Josh Harris
- Economist: Sarah Lyngholm
- Silviculturist: Ty Colombo

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 https://dnrc.mt.gov/TrustLand/about/planning-and-reports.

- **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 2010). As a member, DNRC must submit a list of planned burns to the Airshed Group's Smoke Monitoring Unit describing the type of burn to be conducted, the size of the burn in acres, the estimated fuel loading in tons/acre, and the location and elevation of each burn site. The Smoke Monitoring Unit provides timely restriction messages by airshed. DNRC is required to abide by those restrictions and burn only when granted approval by the Smoke Monitoring Unit when forecasted conditions are conducive to good smoke dispersion.

ALTERNATIVES CONSIDERED:

No-Action Alternative: Under this alternative, no timber would be harvested and therefore no revenue would be generated from the project area for the Common Schools Trust. Forest health would decline due to crowding of trees and inefficient spacing decreasing the supply of timber for future generations and future job markets. The trust would continue to lose stumpage value within the stand.

Action Alternative: This commercial timber harvest would take place using ground-based and cable yarding methods on 105 treated acres to remove approximately 935 mbf of timber, generating revenue for the Common Schools Trust. Forest health would improve by thinning between the trees would improve, allowing the trees to increase their growth to maximum efficiency and decrease competition between trees. It will also establish regeneration in the forest for future generations. Timber sale design would promote and reestablish timber types historically found in these areas.

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:

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Warm and moist (westside)	Mixed-to-Stand Replacing	Douglas Fir	100-149	Mixed Conifer	Seed Tree	15
2	Warm and moist (westside)	Mixed-to-Stand Replacing	Douglas Fir	100-149	Mixed Conifer	Seed Tree	19
3	Warm and moist (westside)	Mixed-to-Stand Replacing	Mixed Conifer	100-149	Douglas Fir	Seed Tree	14
4	Warm and moist (westside)	Mixed-to-Stand Replacing	Mixed Conifer	100-149	Mixed Conifer	Seed Tree	57

Fire Hazard/Fuels: Fuel loading is increasing due to Douglas-fir beetle causing mortality in Douglas-fir throughout the majority of the project area. Insect infestations have led to an abundance of dead-standing and downed timber that poses hazardous fuels conditions. The current arrangement and volume of ground fuels and dead-standing timber dramatically increases probability of uncharacteristically high fire intensity. The project area is within the wildland-urban interface with structures to the north and west of the parcel.

Insects and Diseases: The most prevalent insect is Douglas-fir beetle (*Dendroctnus pseudotsugae*). It has been active in the stand with older dead trees with recent evidence of attacks this last year. There is also dwarf mistletoe infected Douglas-fir (*Arceuthobium douglasii*) and western larch (*A. larcis*). Indian paint fugus (*Echinodontium tinctorium*) is present in pockets of grand fir.

Sensitive/Rare Plants: No plant species of concern identified by the MNHP in the project area.

Noxious Weeds: Some spotted knapweed and hawkweed are present but not wide spread.

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														
Current Cover/DFCs		**X**				**X**				**X**			**N**	
Age Class	**X**				**X**				**X**					
Old Growth	**X**					**X**				**X**			**N**	

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Fire/Fuels		X					X			X			N	
Insects/Disease			X				X			X			N	
Rare Plants	X				X				X					
Noxious Weeds		X				X				X			N	
Action														
Current Cover/DFCs			X			X				X			Y	V-1
Age Class			X			X				X			N	
Old Growth			X			X				X			Y	V-1
Fire/Fuels		X				X				X			Y	V-1
Insects/Disease			X			X				X			Y	V-1
Rare Plants	X				X				X					
Noxious Weeds		X				X				X			Y	V-1

Comments: V-1; See vegetations mitigations.

Vegetation Mitigations:

- To minimize the potential for the spread of noxious weed, off-road equipment would be cleaned and inspected as required in the timber sale contract to avoid seed migration.
- Tree removal would cause changes in the vegetative structure of the project area. Silvicultural prescriptions have been developed to keep stands moving towards desired future conditions, while maintaining surviving tree growth and vigor. The proposed action alternative would promote the continued development of the desired future cover types.
- If any sensitive plant species are observed within the project area, an equipment restriction zone would be made around the specimen and a plant survey would be completed.
- All harvest areas shall have a minimum of 2 snags and 2 snag-recruits over 21 inches dbh, or the next largest size class available. Additional large-diameter recruitment trees may be left if sufficient large snags are not present. These snags and recruitment trees may be clumped or evenly distributed throughout the harvest units

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The project area sits on a normal fault contact, which separates the Upper and Lower Missoula units. This fault is part of an extensive faulting system known as the Rocky Mountain Fold-Trust Belt. The Stevie Series is the predominant soil in the project area and is derived from volcanic ash over colluvium (NRCS). This series has a moderate risk for erosion based on local slope and low to moderate rainfall intensity, as well as a high risk for compaction and displacement based on texture, strength, and available rock fragments.

It's worth noting that no timber management activities have taken place on state lands in the section. However, harvest has occurred on adjacent private and industrial lands. During a field

visit, signs of light motorized use on an existing road were visible. No areas of chronic soil erosion or slope instability were observed in the proposed harvest units. Coarse woody debris volumes were visually estimated at approximately 5-10 tons/acre, mostly comprised of smaller-size class material (<12”). The proposed project would harvest approximately 750 MBF from 201 acres and include 1.1 miles of new road construction.

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**					
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	1
Erosion		**x**				**x**				**x**			Y	2
Nutrient Cycling		**x**				**x**				**x**			Y	3
Slope Stability	**x**				**x**				**x**					
Soil Productivity		**x**				**x**				**x**			Y	1, 3

Comments:

1. Monitoring of DNRC timber harvest shows the level of total detrimental soil impacts in a harvest area averages 12.4% for traditional ground-based operations, localized to primary skid trails and log landing sites (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. Standard implementation of forest Best Management Practices (BMPs) to control erosion concurrent with harvest activities would mitigate any erosion concerns in the project area. Primary or highly impacted skid trails would be covered with slash and debris.

3. Coarse woody debris would be left on-site in volumes recommended to help maintain soil moisture and forest productivity, generally in the 7-24 tons per acre range for habitat types found in the harvest locations (Graham et. al. 1994). Because coarse woody debris would be left on site in amounts recommended by scientific literature, benefits to nutrient cycling and forest productivity would be maintained over the long term.

Soil Mitigations:

- Limit equipment operations to periods when soils are relatively dry, (less than 20 percent), frozen, or snow-covered to minimize soil compaction and rutting and maintain drainage features. Check soil moisture conditions prior to equipment start-up.

- The logger and sales administrator will agree to a skidding plan prior to equipment operations. Skid-trail planning will identify which main trails to use and how many additional trails are needed. Trails not complying with BMPs (i.e., trails in draw bottoms) will only be used if impacts can be adequately mitigated.

- Tractor skidding will be limited to slopes of less than 45 percent unless the operation can be completed without causing excessive displacement or erosion.

- Skid trails will be kept to 20 percent or less of the harvest unit acreage and have adequate drainage concurrently with operations.

- Slash disposal: Limit the combination of disturbance and scarification to 30 to 40 percent of the harvest units. No dozer piling on slopes over 35 percent; no excavator piling on slopes over 45 percent unless the operation can be completed without causing excessive erosion. Consider lopping and scattering or jackpot burning on the steeper slopes. Consider disturbance incurred during skidding.

- Compliance with Forestry Best Management Practices (BMP's), Streamside Management Zone (SMZ) laws, Montana DNRC Forested Trust Lands HCP and applicable DNRC Forest Management Administrative Rules.

References:

Montana Department of Natural Resources and Conservation (DNRC), 1996. Forestry Best Management Practices: State Forest Management Plan. Montana DNRC, Forest management Bureau. Missoula, MT.

Montana Department of Natural Resources and Conservation (DNRC), 2011. DNRC compiled soils monitoring report on timber harvest projects, 2006-2010, 1st Edition. Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, MT.

Graham, R.T., Harvey, A.E., Jorgensen, M.F., Jain, T.B., and Page-Dumrose, D.S., 1994, Managing Course Woody Debris in Forests of the Rocky Mountains. U.S., Forest Service Research Paper INT-RP-477. Intermountain Research Station. 16p.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/ accessed [10/23/2023]

Vuke, S.M., Porter, K.W., Lonn, J.D., and Lopez, D.A., 2007, Geologic Map of Montana - Compact Disc: Montana Bureau of Mines and Geology: Geologic Map 62-C, 73 p., 2

sheets, scale 1:500,000. This map was digitized in 2012 as a result of a contract between the U.S. Geological Survey and the Montana Bureau of Mines and Geology.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions: The project area is within the Elk Creek watershed, which covers 33 square miles. This watershed is predominantly forested, with approximately 99 percent of the land under federal and private ownership. It receives an average annual precipitation of 39 inches. Additionally, the watershed does not fall within a water quality use class region.

Elk Creek enters section 16 in the southwest before flowing out of the section in the northeast. An unnamed class two intermittent stream of Elk Creek, was identified in the NWNWNW quarter of section 16. The channel originates from Pew Gulch, crossing state lands and terminating into Elk Creek, which is supported by bare earth lidar. There are three surface water rights from Elk Creek in section 16.

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					
Water Quantity	x				x				x					
Action														
Water Quality		x				x				x			Y	W1, W2
Water Quantity	x				x				x				Y	W3, W4

Comments:

W1. All requirements found in ARM 36.11.301-313 and ARM 36.11.421-427 would be implemented, where applicable. In addition, all applicable forest management BMPs would be implemented. These measures would minimize any potential risk of sediment delivery to the stream or draws and leave a low risk of direct, secondary, or cumulative impacts on water quality.

W2. Due to the harvest systems utilized, the location and size of harvest units relative to stream channels, the implementation of Forest Management BMPs, low precipitation levels observed in the project area, and surface water disconnection from downstream waters supporting beneficial uses, there is a low risk of additional direct water quality impacts for the proposed actions. Considering these impacts in combination with past and current activities, the proposed action is not likely to elevate the cumulative watershed effect beyond the existing condition.

W3. Forest stands are likely independent of the hydrology and flow regimes of streams in the project area. In concert with implementing BMPs and streamside buffers, this harvest level is not expected to have measurable effects on the timing, magnitude, or duration of peak flows in disconnected downstream receiving waters.

W4. The proposed harvest is not expected to impact current water uses due to the size and scale of the project.

Water Quality & Quantity Mitigations:

1. Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
2. Implementation of Montana Administrative Rules for Forest Management and Streamside Management Zones.
3. Implementing Montana DNRCs Habitat Conservation Plan commitments for Riparian Management Zones and Sediment Delivery.

References:

Montana Department of Environmental Quality (DEQ), 2011. Montana Average Annual Precipitation 1981-2010. Montana Dept. of Environmental Quality, Helena, MT

Montana Department of Natural Resources and Conservation (DNRC). Habitat Conservation Plan - Trust Land Management Division - Fish, Wildlife, and Parks Management Bureau, 2010

FISHERIES:

Fisheries Existing Conditions: Between the proposed harvest locations, Elk Creek is known to be populated with Westslope Cutthroat Trout. Due to the limited acreage of the proposed harvest and low harvest intensity, the proposed actions have a high likelihood of non-detectable direct, secondary, or cumulative effects on aquatic habitats. A low risk of sedimentation exists within 150 feet of the unnamed class two stream crossing on the haul route from the northern parcel. As stated in the above section, the proposed harvest level is not expected to result in measurable effects on the timing, magnitude, or duration of peak flows in downstream receiving waters, and any potential impacts to flow regimes are considered low.

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		
No-Action														
Sediment	x				x				x					
Flow Regimes	x				x				x					
Woody Debris	x				x				x					
Stream Shading	x				x				x					
Stream Temperature	x				x				x					
Connectivity	x				x				x					
Populations	x				x				x					

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Action														
Sediment	**x**				**x**				**x**					
Flow Regimes	**x**				**x**				**x**					
Woody Debris	**x**				**x**				**x**					
Stream Shading	**x**				**x**				**x**					
Stream Temperature	**x**				**x**				**x**					
Connectivity	**x**				**x**				**x**					
Populations	**x**				**x**				**x**					

Comments:

Fisheries Mitigations:

All proposed harvesting activities would take place outside of the established stream management zone to ensure woody debris, stream shading, and stream temperature values are maintained

WILDLIFE:

Wildlife Existing Conditions: The Project Area consists of two DNRC-managed parcels totaling 201 acres and is included in DNRC's Habitat Conservation Plan (USFWS and DNRC 2010). The Project is comprised of habitat conditions that favor native wildlife species that utilize closed-canopy mature forest. The Project Area contains 135 acres of mature forest stands (trees ≥9" dbh with ≥40% canopy closure). The remaining 66 acres consist primarily of densely stocked regenerating forest. There is no old-growth forest in the Project Area using Green et al. (1992) standards. There are no open roads in the Project Area, however there are approximately 0.8 miles of existing roads that receive a low amount of motorized use from adjacent landowners. Public non-motorized use is negligible in this parcel due to the lack of public access. The Project Area is adjacent to private land, industrial timber land, and USDA Forest Service (hereafter USFS) lands. Cumulative effects analysis areas (CEAA) encompass lands near the Project Area and include the 5,790-acre Small CEAA for animals with smaller home ranges like pileated woodpeckers and a 44,279-acre Large CEAA for animals that travel across larger areas such as grizzly bears and big game. Additional information on cumulative effects analysis areas and analysis methods are available upon request.

No-Action Alternative: None of the proposed activities would occur. In the short-term, forest insects and disease will likely continue to kill some mature trees. An increase in stand-replacement wildfire risk would be anticipated. In the long-term, habitat suitability for mature forest-associated species would remain similar or increase compared to current conditions.

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		
Threatened and Endangered Species														
Grizzly bear *(Ursus arctos)* Habitat: Recovery areas, security from human activity			**X**				**X**			**X**			**Y**	**WI-1**
Lynx (*Felis lynx*) Habitat: SF hab.types, dense sapling, old forest, deep snow zone		**X**				**X**				**X**			**Y**	**WI-2**
Yellow-billed cuckoo (*Coccyzus americanus*) Habitat: open cottonwood riparian forest with dense brush understories (Lake and Flathead counties)	**X**				**X**				**X**					**WI-3**
Wolverine (*Gulo gulo*) Habitat: high elevation areas that retain high snow levels in late spring	**X**				**X**				**X**					**WI-3**
Sensitive Species														
Bald eagle *(Haliaeetus leucocephalus)* Habitat: Late-successional forest within 1 mile of open water	**X**				**X**				**X**					**WI-3**
Black-backed woodpecker *(Picoides arcticus)* Habitat: Mature to old burned or beetle-infested forest	**X**				**X**				**X**					**WI-3**
Common loon *(Gavia immer)* Habitat: Cold mountain lakes, nest in emergent vegetation	**X**				**X**				**X**					**WI-3**
Fisher *(Martes pennanti)*		**X**				**X**				**X**			**Y**	**WI-4**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian														
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest		**X**				**X**				**X**				**WI-5**
Peregrine falcon *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands	**X**				**X**				**X**					**WI-3**
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest			**X**				**X**			**X**			**Y**	**WI-6**
Fringed myotis (*Myotis thysanodes*) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines		**X**				**X**				**X**			**Y**	**WI-7**
Hoary bat (*Lasiurus cinereus*) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges		**X**				**X**				**X**			**Y**	**WI-8**
Townsend's big-eared bat *(Plecotus townsendii)* Habitat: Caves, caverns, old mines	**X**				**X**				**X**					**WI-3**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Big Game Species														
Elk			X				X			X			Y	WI-9
Whitetail			X				X			X			Y	WI-9
Mule Deer			X				X			X			Y	WI-9
Moose	X				X				X					WI-9
Other														
Mature Forest			X				X			X			N	WI-10

Comments:

WI-1 Grizzly bear – The Project Area is in the Cabinet-Yaak Ecosystem (CYE) in grizzly bear non-recovery occupied habitat. While occasional presence of a grizzly bear in the Project Area is possible, appreciable use by grizzly bears is unlikely due to the very low density of bears within the CYE and lack of recent observations of grizzly bears in the area (MNHP, 2024). The proposed harvest would remove approximately 105 acres, or 55.1%, of grizzly bear hiding cover within the Project Area. Approximately 85 acres (42.5% of the Project Area) of vegetative hiding cover would remain in the Project Area postharvest. To mitigate for potential adverse effects, patches of cover would be retained such that no point within seed tree units would be greater than 600 feet to cover. No new open roads would be built however, 1.1 miles of new permanent restricted roads would be constructed. Motorized use would increase within the parcel on these restricted roads during project implementation. New roads would be restricted during and after conclusion of the project. Any grizzly bears using the Project Area could be temporarily displaced by the proposed activities for up to four years. Following the four-year (maximum) active period, no substantial commercial forest management projects would be permitted during the non-denning season for at least 8 years (USFWS and DNRC 2010). Additionally, Spring timing restrictions would be applied from April 1 – June 15 to provide security for grizzly bears in the spring. Post-harvest, well-connected hiding cover would persist on approximately 87.2% of the Large CEAA. The greatest risks to bears within the Large CEAA would remain human habitations and associated attractants that bring bears into conflict with people.

WI-2. Canada Lynx – Approximately 98 acres of suitable lynx habitat (51.6% of existing suitable habitat in the Project Area) would be altered by the proposed Action Alternative. These acres would be treated with a seed tree prescription that would reduce conifer canopy cover such that these stands would be temporarily unsuitable lynx habitat post-harvest. To ensure that forest structural attributes preferred by lynx and lynx prey (snowshoe hares) remain following harvest, some patches of advanced regeneration and shade-tolerant trees would be retained within portions of suitable lynx habitat. Additionally, 7 to 24 tons/acre of coarse woody debris would be retained in accordance with DNRC Forest Management Rules (*ARM 36.11.414*) and retention of downed logs ≥15-inch diameter would be emphasized. Post-harvest, suitable lynx habitat would remain in 45.6% of the Project Area. Lynx habitat connectivity within the Project Area would be reduced. However, habitat remaining post-harvest would continue to provide connectivity to suitable habitat on surrounding lands. Any lynx that might be using the Project Area could be displaced for up to four years by the proposed activities. Despite the lack of recent observations (MNHP 2024), the Large CEAA contains >80% potentially suitable habitat for lynx and provides ample connected habitat for lynx persistence at the larger landscape level, should any be present.

WI-3. This species was evaluated, and it was determined that the Project Area lies outside of the normal distribution for the species, and/or suitable habitat was not found to be present.

WI-4. Fisher - Approximately 39 acres of suitable fisher habitat would be removed by the proposed seed tree harvest (44.2% of fisher habitat available in the Project Area). To reduce some potential adverse effects on fishers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (*ARM 36.11.411*). These snags are important habitat features that provide resting and denning sites for fishers (Olson 2014). Habitat connectivity in the Project Area would decrease following logging. However, the 49 acres (24.4% of the Project Area) of remaining suitable fisher habitat in the Project Area would continue to provide connectivity to adjacent private and USFS lands. All new roads would be restricted post-harvest but would facilitate non-motorized public use in the parcel which could increase mortality risk from trapping. However, the likelihood of fishers using the Project Area or Large CEAA is low given the lack of fisher observations in the area within the last 20 years (MNHP 2023, Krohner 2022). The proposed harvest would remove 0.1% of suitable fisher habitat in the Large CEAA, but the abundance of suitable habitat would remain moderate, (26,691 acres, 60.3% of Large CEAA) after the proposed activities.

WI-5. Flammulated Owl – Proposed harvest would remove approximately 7 acres, or 55%, of flammulated owl habitat in the Project Area. Suitable habitat in the Small CEAA will remain low (4.7% of Small CEAA) post-harvest. If any flammulated owls are present near harvest units, they may be temporarily disturbed.

WI-6. Pileated Woodpecker – The proposed activities would remove 45 acres of suitable pileated woodpecker habitat (52.1% of habitat available in the Project Area). These acres would be treated with a seed tree prescription that would reduce the mature canopy cover to approximately 10% making these stands unsuitable for nesting pileated woodpecker use post-harvest. To reduce potential adverse effects on pileated woodpeckers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and all snags cut for safety reasons would be left in the harvest unit (*ARM 36.11.411*). Additionally, 7 to 24 tons/per acre of downed wood would be retained, with an emphasis on logs >15” diameter. Approximately 42 acres (20.7%) of the Project Area would remain as suitable habitat post-harvest. Although the Project Area by itself would not likely continue to support breeding pileated woodpeckers, use by pileated woodpeckers would still be expected considering remaining suitable habitat and adjacent connected habitat within the Small CEAA. Post-harvest, approximately 54.5% of Small CEAA will remain relatively well-connected suitable habitat and continued use of the Small CEAA by pileated woodpeckers would be anticipated.

WI-7 Fringed myotis – No known fringed myotis roosting habitat is present in the Project Area. However, approximately 105 acres of potential foraging habitat would be affected by the proposed timber harvest. Fringed myotis utilize a variety of habitats and roost sites including pine forests (Keinath 2004). If present in the Project Area, they could be temporarily displaced by timber harvesting. At least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and could provide foraging habitat. Current use of the Project Area or Small CEAA by fringed myotis is unknown, however (if present) both areas would likely remain occupied by these bats postharvest.

WI-8. Hoary bat – The proposed activities would affect approximately 105 acres of potential hoary bat habitat. Hoary bats typically roost in tree foliage (Bachen et al. 2020) and if present they could be temporarily displaced by timber harvesting. Potential disturbance would only be expected from late May through September, when hoary bats are in Montana. At least 2 large

snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and could provide roosting habitat. The Project Area and Small CEAA would likely remain occupied by hoary bats during and after harvest, as hoary bats are considered common and widespread throughout Montana (Bachen et al. 2020).

WI-9. Big Game – The Project Area provides winter range habitat for white-tailed deer, mule deer, and elk. The proposed activities would reduce thermal cover and snow intercept on potential white-tailed deer, mule deer, and elk winter range (*DFWP 2008*). The proposed timber harvest would affect 69 acres of thermal cover (60.0% of thermal cover available in the Project Area). Mature tree canopy cover would be reduced such that there would be little capacity of these stands to provide thermal cover during winter conditions. Thermal cover/snow intercept would remain on approximately 46 acres, or 22.9%, of the Project Area. The proposed activities would remove approximately 105 acres, or 55.1%, of hiding cover in the Project Area. Approximately 85 acres (42.5% of the Project Area) of vegetative hiding cover would remain in the Project Area postharvest. To mitigate for some adverse effects related to loss of hiding cover, patches of cover would be retained such that no point within seed tree units would be greater than 600 feet to vegetative or topographic screening. Approximately 1.1 miles of new permanent restricted road would be constructed, which would decrease habitat security for big game species. However, motorized use by the public would be restricted on all new roads within the Project Area. An increase in roads facilitating non-motorized human access, combined with a reduction in hiding cover could result in increased mortality risk to big game species due to hunting. Hiding cover would remain abundant (approximately 87.2%), and thermal cover/snow intercept would remain moderately abundant (51.0% of the Large CEAA) in the Large CEAA. Measurable big game population changes at the scale of the Large CEAA would not be expected as a result of the Action Alternative.

WI-10. Mature Forest – The proposed seed tree harvest would reduce overstory canopy cover to approximately 10%, which is too open to be considered mature forest. The proposed harvest would remove approximately 78 acres of mature forest (57.5% of mature forest within the Project Area). Thus, these stands would no longer be suitable for wildlife species that prefer dense mature forest with more shaded canopies. However, habitat suitability for species that utilize more open forests would increase under the proposed Action Alternative. Post-harvest, 57 acres (28.6%) of mature forest stands would remain in the Project Area. The proposed harvest would reduce connectivity of mature forest within the Project Area and within the Small CEAA. The proposed harvesting would remove approximately 2.5% of existing mature forest in the Small CEAA. Mature forest abundance would remain moderate (52.4%) and well connected throughout the Small CEAA.

Wildlife Mitigations:

- If a threatened or endangered species is encountered, consult a DNRC biologist immediately. Similarly, if undocumented nesting raptors or wolf dens are encountered within ½ mile of the Project Area, contact a DNRC biologist.
- Contractors will adhere to food storage and sanitation requirements as described in the timber sale contract. Ensure that all attractants such as food, garbage, and petroleum products are stored in a bear-resistant manner.
- Prohibit contractors and purchasers conducting contract operations from carrying firearms while on duty as per *ARM 36.11.444(2)*.
- Prohibit all harvesting-related motorized activities April 1 – June 15 per *GB-CY3* (*USFWS and DNRC 2010*).

- Within all harvest units retaining <25 TPA, no point in the harvest unit can be >600 feet to hiding cover or a topographic break, per GB-NR4 (*USFWS and DNRC 2010*).
- Comply with the 4-year active, 8-year rest management schedule guidelines for commercial harvest on this parcel, per GB-SC2, GB-SC3, GB-CY1, and GB-CY2 (*USFWS and DNRC 2010*).
- Within commercial harvest units, retain patches of advanced regeneration of shade-tolerant trees as per *LY-HB4* (*USFWS and DNRC 2010*).
- Effectively close restricted roads and skid trials in the Project Area via a combination of gates, kelly humps, rocks, and stumps. Maintain public motorized restrictions on restricted and roads during and after harvest activities.
- Retain at least 2 snags and 2 snag recruits per acre >21 inches dbh or the next largest available size class, particularly favoring ponderosa pine, western larch, western red cedar and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit.
- Retain 7-24 tons/acre of coarse-woody debris and emphasize retention of 15-inch diameter downed logs, aiming for at least one 20-foot-long section per acre (*USFWS and DNRC 2010*).

Literature:

Bachen, D.A., A. McEwan, B. Burkholder, S. Blum, and B. Maxell. 2020. Accounts of Bat Species Found in Montana. Report to Montana Department of Environmental Quality. Montana Natural Heritage Program, Helena, Montana. 58 p.

DFWP. 2008. Maps of moose, elk, mule deer, and white-tailed deer distribution in Montana. *In* Individual GIS data layers. Available online at: https://gis-mtfwp.opendata.arcgis.com/

Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992. Old Growth Forest Types of the Northern Region. R-1 SES. USDA Forest Service, Northern Region, Missoula MT 60pp.

Keinath, D.A. (2004, October 29). Fringed Myotis (*Myotis thysanodes*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: http://www.fs.fed.us/r2/projects/scp/assessments/ fringedmyotis.pdf 1/27/2023.

Montana Natural Herigate Program. 2024. Natural Heritage Map Viewer. Montana Natural Heritage Program. Retrieved on April 5, 2024, from http://mtnhp.org/MapViewer.

Olson, L. E., J. D. Sauder, N. M. Albrecht, R. S. Vinkey, S. A. Cushman, and M. K. Schwartz. 2014. Modeling the effects of dispersal and patch size on predicted fisher (*Pekania [Martes] pennanti*) distribution in the U.S. Rocky Mountains. Biological Conservation 169:89-98.

USFWS and DNRC. 2010. Montana Department of Natural Resources and Conservation Forested Trust Lands Habitat Conservation Plan, Final Environmental Impact Statement, Volumes I and II., U.S. Department of Interior, Fish and Wildlife Service, Region 6, Denver, Colorado and Montana Department of Natural Resources and Conservation, Missoula, MT.

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		
No-Action														
Smoke	**X**				**X**				**X**					
Dust	**X**				**X**				**X**					
Action														
Smoke		**X**				**X**				**X**				**AQ-1**
Dust		**X**				**X**				**X**				**AQ-2**

Comments:
AQ-1: The proposed project is located in Montana State Airshed 1 as designated by the Montana/Idaho Airshed Group. Particulate matter may be introduced into the Airshed from the burning of logging slash. All burning would be conducted following the rules, regulations, and procedures of the DNRC major open burning permit and the Montana/Idaho Airshed Group operations guide. Impacts are expected to be minor and temporary as all slash burning would be conducted burning on days with good to excellent dispersion when smoke would not be expected to impair visibility. Therefore, direct, indirect, and cumulative effects to air quality are expected to be minimal.

AQ-2: Under the action alternative, truck traffic would produce more dust than the no action alternative

Air Quality Mitigations:
- Only burn on days approved by the Montana/Idaho Airshed group and DEQ
- Keep truck speeds down to reduce road dust

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 Resources of Land, Water, or Energy	**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		
Action														
Historical or Archaeological Sites	**X**				**X**				**X**				**Y**	**H-1**
Aesthetics		**X**			**X**				**X**				**N**	**A-1**
Demands on Environmental Resources of Land, Water, or Energy	**X**				**X**				**X**					

Comments:

A-1: The harvest units would be visible from adjoining properties.

H-1: Scoping letters were sent to those Tribes that requested to be notified of DNRC timber sales. No response was returned that identified a specific cultural resource issue. A Class I (literature review) level review was conducted by the DNRC staff archaeologist for the area of potential effect (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 paleontological or cultural resources have been identified in the APE.

Mitigations:

A-1: The harvest units are adjoining managed private ground. The units are laid out with feathered, not strait lines to mimic natural fire disturbance (this was due to topography and existing stands).

H-1: Proposed silvicultural treatment activities are expected to have No Effect to Antiquities. No additional archaeological investigative work will be conducted in response to this proposed development. 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.

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.*

- McKay Creek DF Root Rot Permit EA (2010)
- USFS McKay/Engle Project (2022)
- McKay Timber Sale EA (2023)

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 population and housing	**X**				**X**				**X**					
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**			**No**	**HP-1**
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**					

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: N/A

Mitigations:
HP-1: According to the Montana Bureau of Business and Economic Research a general rule of thumb is that for every million board feet of sawtimber harvested in Montana, ten person years of employment occur in the forest products industry. This harvest is viewed as a continuation of a sustained yield and as such would not create any new jobs but rather sustain approximately 8 person years of employment in the forest products industry. A few short-term jobs would also be created/sustained by issuing contracts following harvest. Additionally, local businesses, such as hotels, grocery stores, and gas stations would likely receive additional revenues from personnel working on the proposed project. This would be a positive low impact to quantity and distribution of employment in the area.

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.*

- No

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 Common Schools Trust. The estimated return to the trust for the proposed harvest is $112,710.95 based on an estimated harvest of 935,000 board feet (5,555 tons) and an overall stumpage value of $20.29 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?

No

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

No

Environmental Assessment Checklist Prepared By:

Name: Ty Colombo
Title: Forest Management Supervisor
Date: July 1, 2025

Finding

Alternative Selected
The Action Alternative is selected for implementation.

Significance of Potential Impacts
No significant impacts were identified in the development of the project.

Need for Further Environmental Analysis

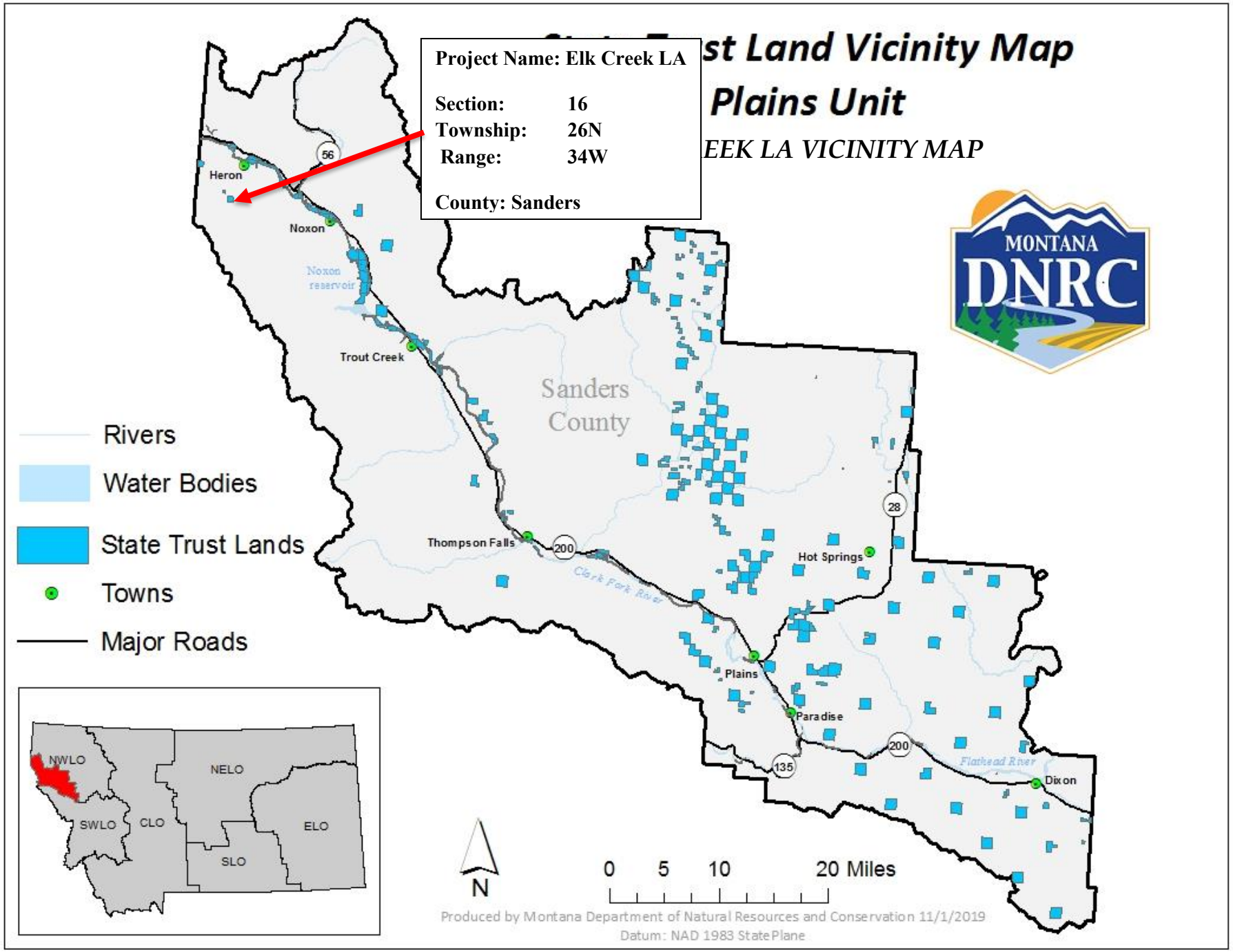
[ ]	EIS	[ ]	More Detailed EA	[X]	No Further Analysis

Environmental Assessment Checklist Approved By:

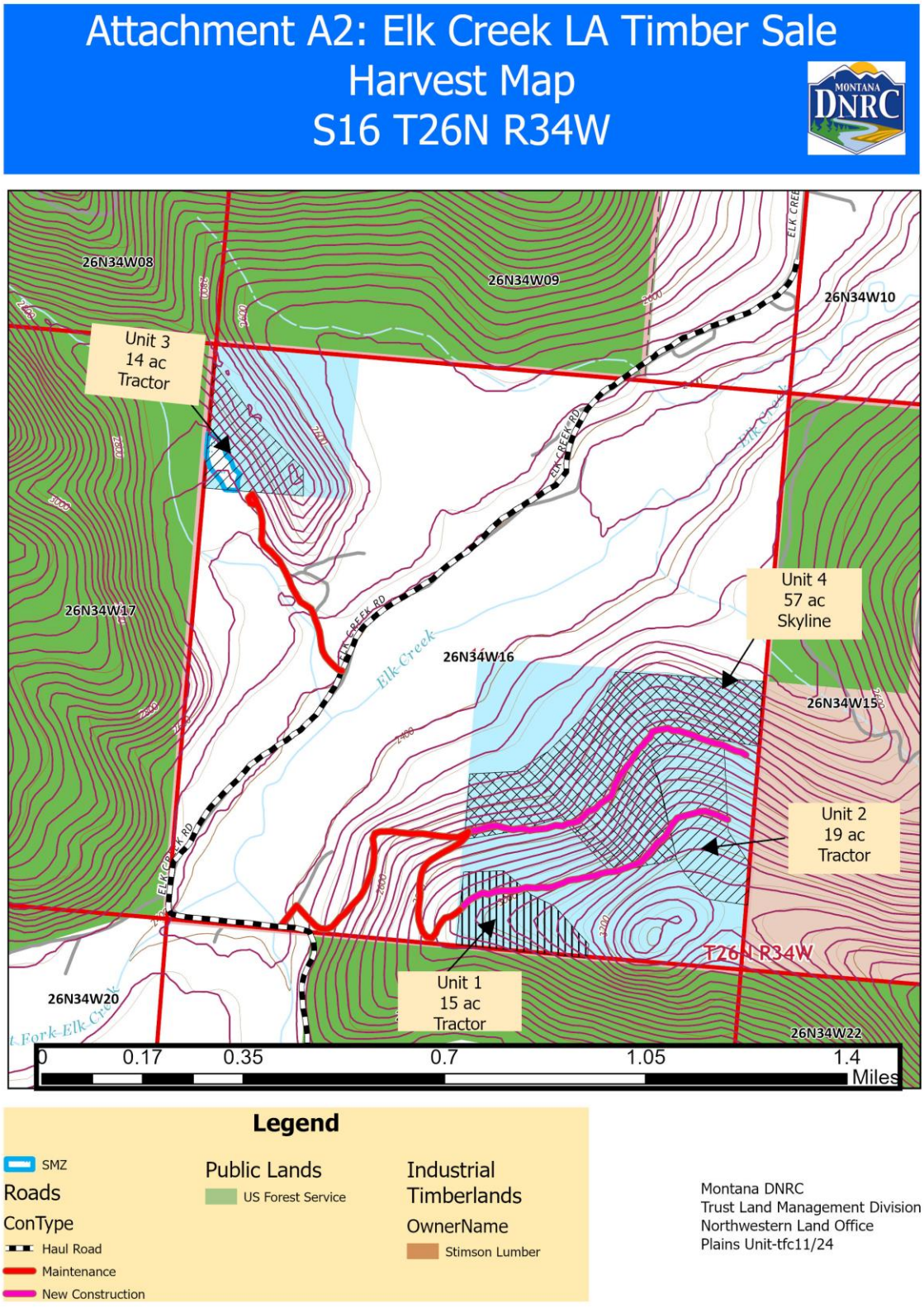
Name: David M. Olsen
Title: Plains Unit Project Manager
Date: July 29, 2025
Signature: /s/ *David M. Olsen*

Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Haul Route Map



Attachment B - Silvicultural Prescriptions

SALE/PROJECT NAME: Elk Creek Limited Access	**DATE: 03/26/2024**
CUTTING / TREATMENT UNIT NUMBER(s): Unit 1, 2	**ACRES:** 34
LOCATION (TRS): T26N R34W S16	**EST. HARVEST VOLUME:** 368 mbf
WATERSHED: Elk Creek	**ELEVATION:** 2920 – 3360 ft
HABITAT TYPE(s): ABGR/CLUN-CLUN, THPLCLUN-CLUN	**ASPECT:** N
CURRENT COVER TYPE: Douglas-fir	**SLOPE (%): 10-45%**
DESIRED COVER TYPE: Mixed Conifer	**PREPARED BY:** T. Colombo

STAND DESCRIPTION
DF, PP, WL, GF. Multi-storied. Well Stocked. 140 BA/A. Regen-GF, DF. Mixed severity fire regime. Root rot and DF beetle are active in stand

TREATMENT OBJECTIVES	**TARGET STAND CONDITIONS**
☑ Move stands toward desired future conditions	Favor leaving PP, WL, DF at 10 tpa. 65ft spacing. Two storied with over story and protect established regen where present. Remove most DF and GF to reduce fuel loading and mortality.
☑ Emulate natural disturbance regimes	
☑ Promote/establish regeneration	
☑ Enhance stand growth and vigor	
☑ Address insect and disease issues	
☑ Reduce fuel loading/fire hazard	
☑ Capture value of dead/dying timber	
☑ Generate revenue for the trust beneficiaries	
☐ Other: (specify)	

PRESCRIBED TREATMENT			
Even-Aged Methods	**Uneven-Aged Methods**	**Intermediate Treatments**	**Salvage Treatments**
☐ Clearcutting	☐ Individual Tree Selection	☐ Overstory Removal	☐ Fire Salvage
☑ Seed Tree	☐ Group Selection	☐ Commercial Thinning	☐ Insect / Disease Salvage
☐ Shelterwood	☐ Old Growth Maintenance	☐ Sanitation	☐ Weather/Blowdown Salvage
☐ check if with reserves	☐ Old Growth Restoration	☐ Precommercial Thinning	☐ Other Salvage

HARVEST IMPLEMENTATION GUIDELINES	
Marking System: ☐ Cut Tree ☐ Leave Tree ☑ Sample Mark / Designate x Description ☐ Species Designation	
Number/Spacing/Size of Leave Trees:	10tpa/65 ft spacing/ 16+ dbh
Species Preference:	PP, WL, DF
Characteristics of cut or leave trees:	Leave trees-Well formed health dominant/co-dominant trees
Number of Snags/Snag Recruits:	2 snags/2 snag recruits
Additional Information:	

HARVEST METHOD				
Yarding: ☑ Tractor	☐ Skyline	☐ Combination	☐ Excaline	☐ Other: (specify)
Ground conditions:	☑ Dry	☑ Frozen	☑ Snow	☐ Other: (specify)
Seasonal restrictions:	☐ Summer	☐ Winter	☑ Dates: April 1 – June 15 (Grizzly bear)	
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)				
Skid trail location/spacing:				
Additional Information:				

HAZARD REDUCTION / SLASH TREATMENT				
Slash disposal:	☑ Pile & burn (landings)	☐ Pile & burn (in-woods)	☐ Broadcast burn	☐ Jackpot burn
	☐ Masticate/Chip	☐ Lop & Scatter	☐ Hand Pile	☐ Other: (specify)
Nutrient Retention: Coarse woody debris (tons/ac):			☐ Return skid coarse/fine material	
Additional Information:				

SITE PREPARATION				
Method:	☑ Timber Sale/Dispersed Skidding	☐ Dozer	☐ Excavator	☐ Broadcast Burn
	☐ Slash unwanted regeneration	☐ Chemical/Herbicide	☐ Other: (specify)	
Target % scarification:				
Additional Information:				

REGENERATION				
Type of Regeneration:	☑ Natural	☐ Planted	☐ Existing Advance	
Fill in below if planting:				
Estimated Number of Seedlings to Plant:				
Species:	☐ White Pine	☐ Western Larch	☐ Ponderosa Pine	☐ Douglas-fir
	☐ Spruce	☐ Lodgepole Pine	☐ Other: (specify)	
Additional Information:				

ANTICIPATED FUTURE TREATMENTS
List approximate dates of post-harvest treatments, including: Slash disposal/hazard reduction: Site preparation: Planting: Regeneration survey: Evaluate for PCT: Future harvest:

SALE/PROJECT NAME: Elk Creek Limited Access	**DATE: 03/26/2024**
CUTTING / TREATMENT UNIT NUMBER(s): Unit 3	**ACRES:** 14
LOCATION (TRS): T26N R34W S16	**EST. HARVEST VOLUME:** 113 mbf
WATERSHED: Elk Creek	**ELEVATION:** 2520 – 2720 ft
HABITAT TYPE(s): PSME/PHMA-PHMA, TSHE/CLUN-CLUN	**ASPECT:** SW
CURRENT COVER TYPE: Mixed Conifer	**SLOPE (%): 10-45%**
DESIRED COVER TYPE: Douglas-fir	**PREPARED BY:** T. Colombo

STAND DESCRIPTION
Stands are a mix of GF, WH, WL, RC, LPP, and PP. Multi-storied poor to well stocked stands. 100 BA/ac and 150 mbf. Regen-mostly GF and DF. Mixed fire regime. Root rot and DF beetle active.

TREATMENT OBJECTIVES	**TARGET STAND CONDITIONS**
☑ Move stands toward desired future conditions	Favor leaving PP, WL, DF at 10 tpa. 65ft spacing. Two storied with over story and protect established regen where present. Remove most DF and GF to reduce fuel loading and mortality
☑ Emulate natural disturbance regimes	
☑ Promote/establish regeneration	
☑ Enhance stand growth and vigor	
☑ Address insect and disease issues	
☑ Reduce fuel loading/fire hazard	
☑ Capture value of dead/dying timber	
☑ Generate revenue for the trust beneficiaries	
☐ Other: (specify)	

PRESCRIBED TREATMENT			
Even-Aged Methods	**Uneven-Aged Methods**	**Intermediate Treatments**	**Salvage Treatments**
☐ Clearcutting	☐ Individual Tree Selection	☐ Overstory Removal	☐ Fire Salvage
☑ Seed Tree	☐ Group Selection	☐ Commercial Thinning	☐ Insect / Disease Salvage
☐ Shelterwood	☐ Old Growth Maintenance	☐ Sanitation	☐ Weather/Blowdown Salvage
☐ check if with reserves	☐ Old Growth Restoration	☐ Precommercial Thinning	☐ Other Salvage

HARVEST IMPLEMENTATION GUIDELINES	
Marking System: ☐ Cut Tree ☐ Leave Tree ☑ Sample Mark / Designate x Description ☐ Species Designation	
Number/Spacing/Size of Leave Trees:	10tpa/65 ft spacing/ 16+ dbh
Species Preference:	PP, WL, DF
Characteristics of cut or leave trees:	Leave trees-Well formed health dominant/co-dominant trees
Number of Snags/Snag Recruits:	2 snags/2 snag recruits
Additional Information:	

HARVEST METHOD				
Yarding: ☑ Tractor	☐ Skyline	☐ Combination	☐ Excaline	☐ Other: (specify)
Ground conditions:	☑ Dry	☑ Frozen	☑ Snow	☐ Other: (specify)
Seasonal restrictions:	☐ Summer	☐ Winter	☑ Dates: April 1 – June 15 (Grizzly bear)	
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)				
Skid trail location/spacing:				

Additional Information:

HAZARD REDUCTION / SLASH TREATMENT				
Slash disposal:	☑ Pile & burn (landings)	☐ Pile & burn (in-woods)	☐ Broadcast burn	☐ Jackpot burn
	☐ Masticate/Chip	☐ Lop & Scatter	☐ Hand Pile	☐ Other: (specify)
Nutrient Retention: Coarse woody debris (tons/ac):			☐ Return skid coarse/fine material	
Additional Information:				

SITE PREPARATION				
Method:	☑ Timber Sale/Dispersed Skidding	☐ Dozer	☐ Excavator	☐ Broadcast Burn
	☐ Slash unwanted regeneration	☐ Chemical/Herbicide	☐ Other: (specify)	
Target % scarification:				
Additional Information:				

REGENERATION				
Type of Regeneration:	☑ Natural	☐ Planted	☐ Existing Advance	
Fill in below if planting:				
Estimated Number of Seedlings to Plant:				
Species:	☐ White Pine	☐ Western Larch	☐ Ponderosa Pine	☐ Douglas-fir
	☐ Spruce	☐ Lodgepole Pine	☐ Other: (specify)	
Additional Information:				

ANTICIPATED FUTURE TREATMENTS
List approximate dates of post-harvest treatments, including: Slash disposal/hazard reduction: Site preparation: Planting: Regeneration survey: Evaluate for PCT: Future harvest:

SALE/PROJECT NAME: Elk Creek Limited Access	**DATE: 03/26/2024**
CUTTING / TREATMENT UNIT NUMBER(s): Unit 4	**ACRES:** 57
LOCATION (TRS): T26N R34W S16	**EST. HARVEST VOLUME:** 566 mbf
WATERSHED: Elk Creek	**ELEVATION:** 2640-3120 ft
HABITAT TYPE(s): ABGR/CLUN-CLUN, TSHE/CLUN-CLUN	**ASPECT:** N
CURRENT COVER TYPE: Mixed Conifer	**SLOPE (%):** 35-55%
DESIRED COVER TYPE: Mixed Conifer	**PREPARED BY:** T. Colombo

STAND DESCRIPTION
Mostly GF and DF with WL, RC, LPP, and WP. Multi-storied well stocked stands. 140 BA/ac and 700 mbf. Regen-mostly GF and RC with WH and DF. Mixed fire regime. Root rot and DF beetle active.

TREATMENT OBJECTIVES	**TARGET STAND CONDITIONS**
☐ Move stands toward desired future conditions	Favor leaving WP, WL, DF at 10 tpa. 65ft spacing. Two storied with over story and protect established regen where present. Remove most RC, LP, DF and GF to reduce fuel loading and mortality
☑ Emulate natural disturbance regimes	
☑ Promote/establish regeneration	
☑ Enhance stand growth and vigor	
☑ Address insect and disease issues	
☑ Reduce fuel loading/fire hazard	
☑ Capture value of dead/dying timber	
☑ Generate revenue for the trust beneficiaries	
☐ Other: (specify)	

PRESCRIBED TREATMENT			
Even-Aged Methods	**Uneven-Aged Methods**	**Intermediate Treatments**	**Salvage Treatments**
☐ Clearcutting	☐ Individual Tree Selection	☐ Overstory Removal	☐ Fire Salvage
☑ Seed Tree	☐ Group Selection	☐ Commercial Thinning	☐ Insect / Disease Salvage
☐ Shelterwood	☐ Old Growth Maintenance	☐ Sanitation	☐ Weather/Blowdown Salvage
☐ check if with reserves	☐ Old Growth Restoration	☐ Precommercial Thinning	☐ Other Salvage

HARVEST IMPLEMENTATION GUIDELINES	
Marking System: ☐ Cut Tree ☐ Leave Tree ☑ Sample Mark / Designate x Description ☐ Species Designation	
Number/Spacing/Size of Leave Trees:	10tpa/65 ft spacing/ 16+ dbh
Species Preference:	PP, WL, DF
Characteristics of cut or leave trees:	Leave trees-Well formed health dominant/co-dominant trees
Number of Snags/Snag Recruits:	2 snags/2 snag recruits
Additional Information:	

HARVEST METHOD				
Yarding: ☐ Tractor	☑ Skyline	☐ Combination	☐ Excaline	☐ Other: (specify)
Ground conditions:	☑ Dry	☑ Frozen	☑ Snow	☐ Other: (specify)
Seasonal restrictions:	☐ Summer	☐ Winter	☑ Dates: April 1 – June 15 (Grizzly bear)	
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)				
Skid trail location/spacing:				
Additional Information:				

HAZARD REDUCTION / SLASH TREATMENT				
Slash disposal:	☑ Pile & burn (landings)	☐ Pile & burn (in-woods)	☐ Broadcast burn	☐ Jackpot burn
	☐ Masticate/Chip	☐ Lop & Scatter	☐ Hand Pile	☐ Other: (specify)
Nutrient Retention: Coarse woody debris (tons/ac):			☐ Return skid coarse/fine material	
Additional Information:				

SITE PREPARATION				
Method:	☑ Timber Sale/Dispersed Skidding	☐ Dozer	☐ Excavator	☐ Broadcast Burn
	☐ Slash unwanted regeneration	☐ Chemical/Herbicide	☐ Other: (specify)	
Target % scarification:				
Additional Information:				

REGENERATION				
Type of Regeneration:	☑ Natural	☐ Planted	☐ Existing Advance	
Fill in below if planting:				
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Species:	☐ White Pine	☐ Western Larch	☐ Ponderosa Pine	☐ Douglas-fir
	☐ Spruce	☐ Lodgepole Pine	☐ Other: (specify)	
Additional Information:				

ANTICIPATED FUTURE TREATMENTS
List approximate dates of post-harvest treatments, including: Slash disposal/hazard reduction: Site preparation: Planting: Regeneration survey: Evaluate for PCT: Future harvest: