

## Environmental Assessment Checklist

**Project Name:** Lower McKillop Timber Sale  
**Proposed Implementation Date:** April 2023  
**Proponent:** Libby Unit, Northwest Land Office, Montana DNRC  
**County:** Lincoln

### Type and Purpose of Action

#### Description of Proposed Action:

The Libby Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Lower McKillop Timber Sale. The project is located approximately 21 miles southeast from Libby, MT. (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	T28N R29W Section 36	640	519.1
Public Buildings			
MSU 2 <sup>nd</sup> 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:

- Reduce forest fuels
- Treat stands to encourage a healthier, more vigorous condition
- Move forested stands toward the desired future condition
- Generate approximately \$480,000 – \$520,000 in revenue for the Common Schools Trust
- Increase accessibility to the parcel

Proposed activities include:

Action	Quantity
<b>Proposed Harvest Activities</b>	<b># Acres</b>
Clearcut	
Seed Tree	
Shelterwood	414
Selection	
Old Growth Maintenance/Restoration	105.1
Commercial Thinning	
Salvage	
<b>Total Treatment Acres</b>	<b>519.1</b>
<b>Proposed Forest Improvement Treatment</b>	<b># Acres</b>
Pre-commercial Thinning	
Site preparation/scarification	
Planting	414
<b>Proposed Road Activities</b>	<b># Miles</b>
New permanent road construction	0.50
New temporary road construction (existing overgrown jammer trails)	1.05
Road maintenance – Level 1 and 2	5.58
Road reconstruction – Level 3	0.95
Road abandoned	1.05
Road reclaimed	
<b>Other Activities</b>	
Excavated skid trail construction and rehabilitation	0.25

<b>Duration of Activities:</b>	Approximately 3-4 years
<b>Implementation Period:</b>	April 2023 – April 2027

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:
  - March 25, 2022 – April 25, 2022
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: <http://dnrc.mt.gov/public-interest/public-notice>
  - Statewide scoping list
  - Adjacent landowners
  - Land use license – McLaury Apiaries (LUL-3053485)
  - Public notice published in Western News on March 29 and April 1, 8, 15, 22 of 2022.
- AGENCIES SCOPED:
  - US Forest Service
  - Lincoln County
  - Montana Fish Wildlife and Parks
  - All Montana Tribal Organizations
- COMMENTS RECEIVED:
  - How many: 5 (3 in support and 2 concerns)
  - Concerns: Two industry representatives provided comments of support. Lincoln County Noxious Weed Department expressed concern about presence of Ventenata (invasive grass species) along haul routes. Blackfeet Tribe expressed concurrence of the proposed timber sale and Northern Cheyenne Tribe requested a Class I or III report be conducted on the project area.
  - Results: Lincoln County Noxious Weed Department was contacted, and a plan has been set to mitigate noxious weeds in sale area. DNRC Archeologist conducted a Class I report and did not find any evidence of cultural resources in the area.

DNRC specialists were consulted, including: Alivia Shumaker (Management Forester), Dave Marsh (Forest Management Supervisor), Tim Spoelma (Silviculturist), Tony Nelson (Hydrologist/Soil Scientist), Chris Forristal (Program Wildlife Biologist), Justin Cooper (Wildlife Biologist), Mike Anderson (Fisheries Biologist) and Patrick Rennie (Archeologist).

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 <http://dnrc.mt.gov/divisions/trust/forest-management/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 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.
- **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:
  - Preparing for and installation of one Corrugated Metal Pipe (CMP) where a permanent road crosses a class 2 stream
  - Repairing CMP in class 2 stream
  - Installing/removing temporary bridge crossing in class 1 stream

## ALTERNATIVES CONSIDERED:

**No-Action Alternative:** The proposed actions would not be implemented. No revenue would be generated for the Common Schools Trust. No timber would be harvested.

**Action Alternative:** A timber sale generating approximately 3.7 – 4 million board feet (MMBF) of timber would be harvested thus creating revenue for the Common Schools Trust. The proposed timber sale would utilize old growth restoration and shelterwood harvest prescriptions. The prescription also includes removing about 159 acres of old growth due to help decrease the potential spread of insects and disease, harvest the value of the impacted trees, and open the stands to allow for the larger, dominant trees to persist. In addition to the proposed harvest, there would be approximately 0.50 miles of new permanent and 1.05 miles of new temporary road construction, 0.95 miles of reconstruction, 5.58 miles of maintenance, and 0.25 miles of excavated skid trail.

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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:** There is a mixture of native vegetation throughout the sale area. Along the roads cheatgrass, spotted knapweed, and orange hawkweed are present. Noxious weeds will be treated in these areas.

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Ponderosa Pine	Shelterwood Harvest	37.8
2	Moderately warm and dry (westside)	Low-to-mixed	Western Larch/Douglas Fir	Old Growth	Western Larch/Douglas Fir	Old Growth Restoration	105.1 (Field Verified approx. 41 acres old growth)
3	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	100-149	Ponderosa Pine	Shelterwood Harvest	31
4	Moderately cool and moist (westside)	Mixed	Western Larch/Douglas Fir	Old Growth	Western Larch/Douglas Fir	Shelterwood Harvest	345.2 (Field verified approx. 159 acres old growth)

**Fire Hazard/Fuels:** There are no known structures in the vicinity of the harvest area. Stands to be treated consist of densely stocked mature, overstory trees with surface fuels consisting of moderate blowdown, brush, and surface litter. Ladder fuels consisting of larger shrubs and dense regeneration. This leads to majority of the stands having a uniform horizontal continuity.

**Insects and Diseases:** Widespread mortality across all harvest units. Fir engraver beetle, (*Scolytus ventralis*) is active in mature grand fir and Douglas fir beetle (*Dendroconus psuedotsuga*) is active in mature Douglas fir. Indian paint fungus (*Echindomium tinctorium*) is evident in the grand fir and western hemlock. Dwarf mistletoe (*Arceuthobium laricis*) is evident in western larch. Cooley spruce gall adelgid (*Adelges cooleyi*) found in some Engelmann spruce.

**Sensitive/Rare Plants:** No known sensitive or rare plants in the project area.

**Noxious Weeds:** Spotted knapweed, orange hawkweed, and cheatgrass are currently present in the project area.



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>														
Current Cover/DFCs		X			X				X				Y	V-3
Age Class	X				X				X					
Old Growth	X				X				X					
Fire/Fuels		X			X				X				Y	V-4
Insects/Disease	X				X				X					
Rare Plants	X				X				X					
Noxious Weeds	X				X				X					
<b>Action</b>														
Current Cover/DFCs		X			X				X				Y	V-3
Age Class	X				X				X					
Old Growth			X				X				X		Y	V-1
Fire/Fuels		X			X				X				Y	V-4
Insects/Disease		X				X				X			Y	V-4
Rare Plants	X				X				X					
Noxious Weeds			X				X				X		Y	V-2

*Comments:*

Details of Timber Harvest:

Shelterwood Treatment: There will be 2 shelterwood treatments. Both will protect existing regeneration and provide daylight conditions around patches of desirable, advanced regeneration. Overstory leave tree selection would favor retention of healthy, vigorous, dominant trees, most often, the tallest trees from the largest diameter class available. Leave tree species selection would be in the following order of preference: western white pine (WWP), ponderosa pine (PP), western larch (WL), and Douglas-fir (DF). Leave tree spacing would vary depending on overall tree condition and species. Unit 1 and 3 would have an average spacing between 40 – 50 feet. Unit 4 would have an average spacing between 45 – 55 feet. Natural regeneration would be encouraged. Hand planting tree seedlings would be utilized to promote desired species and stocking levels as needed. Species to be planted would likely include ponderosa pine and western larch.

Old Growth Restoration: Protect existing regeneration. Maintain old growth characteristics. Overstory leave tree selection would favor retention of trees that have old growth characteristics such as: large DBH, tall, and complex crown structure. Leave tree species selection would be in the following order of preference: ponderosa pine (PP), western larch (WL), and Douglas-fir (DF). Leave tree spacing would vary depending on over-all tree condition and species potentially creating ¼- ½ acre openings in stand. Post-harvest conditions should be at least 60 ft<sup>2</sup> BA and 8 live trees per acre ≥ 21inches DBH.

V-1: There is a total of 238 acres of old growth in the project area. 159 acres will be removed from old growth status. No treatment on 38 acres and the remaining 41 acres will follow the old growth treatment. The percentage of old growth on the Libby Unit administrative area would be approximately 9.1 %. This would be a 0.5% reduction for Libby Unit. Proposed old growth harvest treatments (old growth restoration) would retain the attributes necessary to maintain old growth classification. Post-harvest conditions should be at least 8 trees greater than or equal to 21-inch DBH, along with 60 sq. ft. of basal area per acre must be left.

V-2: Noxious weeds would be managed through contract mitigations, and through ongoing, cooperative efforts. To prevent the spread of noxious weeds from roads "off road" logging equipment will be inspected and required to be free of weed parts prior to mobilizing to the site.

V-3: No action will have low direct impacts as units 1 and 3 have shade tolerant species that continue to grow and advance the stand away from its DFC of ponderosa pine.

V-4: Forest health is an issue in the project area with increased mortality each year due to insects and disease. This aids in the accumulation of fuels, adding to the fire and fuel hazard.

*Vegetation Mitigations:*

- Largest diameter snags will be protected to retain 2 snags and 2 snag recruits per acre in each unit.
- Western white pine, ponderosa pine, western larch, and Douglas-fir would be favored in all canopy levels as leave trees.

## SOIL DISTURBANCE AND PRODUCTIVITY:

**Soil Disturbance and Productivity Existing Conditions:** The proposed project area has approximately 6.5 miles of low to moderate standard existing road. The last timber sale in the project area was completed in 1961, and various permits removed timber through 1985. The most recent activity was a blowdown salvage in the project area in 2021. Existing skid trails from prior entries are ameliorating due to root penetration and frost action and impacts from past entries are abating, though still identifiable on the ground. The roads and skid trails are not an existing source of erosion or sediment delivery.

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					

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		
Action														
Physical Disturbance (Compaction and Displacement)		X				X				X			Y	S-1
Erosion		X				X				X			Y	S-2
Nutrient Cycling		X				X				X			Y	S-3
Slope Stability		X				X				X			Y	S-4
Soil Productivity		X				X				X			Y	S-5

*Comments:*

**S-1:** Based on DNRC soil monitoring on similar soils with a similar harvest intensity, approximately 11.7% of harvested area may be in an impacted condition (DNRC, 2006). This level is below the range analyzed for in the *EXPECTED FUTURE CONDITIONS* section of the *SFLMP*, and well within the 20-percent impacted area established as a level of concern in the *SFLMP* (DNRC 1996). This level translates to a low risk of low direct, secondary and cumulative impacts to soil physical disturbance.

**S-2:** Low impacts to soil erosion are possible due to exposure of bare soil during felling and yarding operations and road construction activities. Risk of erosion would be mitigated by implementing all applicable BMPs to harvesting and road building activities.

**S-3:** Based on research by Graham, et. al. (1994), habitat types found in the project area should have 7-14 tons/acre of coarse woody debris for nutrient cycling. Logging residue left on the ground as mitigation would have a positive effect on nutrient cycling and improve the project area over the current condition.

**S-4:** The southwest portion of the proposed project area contains a land type with high erosion rates and an elevated potential for soil mass movement. Portions of this area would have new road construction with proposed project. Provided all applicable BMPs are followed with road construction and management, the risks of additional soil mass movement would be minimized.

**S-5:** Soil productivity would be impacted by temporary road construction and the use of ground-based machinery to yard timber. As stated in comment **S-1**, levels of ground disturbance are expected to be less than 11.7% with roads included, which is well below the range analyzed for in the *EXPECTED FUTURE CONDITIONS* section of the *SFLMP*, and well within the 20-percent impacted area established as a level of concern in the *SFLMP* (DNRC 1996). This level translates to a low risk of low direct, secondary and cumulative impacts to soil productivity.

*Soil Mitigations:*



- Operate ground-based equipment only during periods of dry, frozen or snow-covered conditions
- Space skid trails a minimum of 60 feet apart to minimize areas impacted by ground-based equipment. Land types in the proposed project area are prone to impacts from soil displacement
- Use existing skid trails if they are in suitable locations to minimize potential for cumulative impacts to soil physical disturbance
- Leave approximately 7-14 tons of woody material 3-inches in diameter or greater on the ground for nutrient cycling

### WATER QUALITY AND QUANTITY:

McKillop Creek flows through the middle of the proposed project area. All proposed activity is at least 96 feet from the McKillop Creek channel. Two perennial, discontinuous class 2 streams were identified, one near the west section line and another near the south section line. These streams do not connect to McKillop Creek or any other surface water features. Overland flow may occur in broad ephemeral draws during extreme runoff events, but no evidence of this was identified during field reconnaissance.

**Water Quality and Quantity Existing Conditions:** Past management activities have had no identifiable impacts to runoff patterns in the proposed project area.

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	WQ-1
Water Quantity		X				X				X			Y	WQ-2

*Comments:*

**WQ-1:** 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 a stream or draw and leave a low risk of direct, secondary or cumulative impacts to water quality. There is an existing log crossing structure across McKillop Creek in the eastern portion of the proposed project area. This structure would be removed, the site rehabilitated to a spill-through design to facilitate installation of a 30-foot temporary bridge. The bridge would be removed following completion of activities. Rock armoring would remain at the site and all bare soil would be grass seeded concurrent with installation and removal activities. All applicable BMPs, SMZ rules and recommendations from the 124-permit process would be implemented in order to minimize the risk of impacts to water quality.

**WQ-2:** There is a low risk of any proposed activities leading to increases in water quantity sufficient to destabilize any project area stream channel due to the size of the watershed relative to the proposed harvesting, the stable nature of the stream channels within the proposed project area and the well-drained nature of the soils in the project area

*Water Quality & Quantity Mitigations:*

- Minimize use of ground-based equipment in swale and draw bottoms to avoid concentration of runoff.

**FISHERIES:**

**Fisheries Existing Conditions:** Westslope Cutthroat and eastern brook trout are known to populate McKillop Creek, including reaches flowing through the proposed project area according to the Montana Department of Fish, Wildlife and Parks' Fish MT website. No data were found regarding spawning activity in McKillop Creek, data displayed report presence/absence surveys. All streamside vegetation on McKillop Creek in the proposed project area is functioning and intact. A blowdown salvage operation by DNRC in 2021 removed some wind-thrown trees from the riparian area. These areas were surveyed for coarse woody debris and stream shading by a DNRC fisheries biologist in 2021 and found no measurable impacts to shade levels or coarse woody debris as a result of this management.

No areas of severe bank erosion or channel down-cutting were identified during field reconnaissance. No other fish-bearing stream channels were identified in the proposed project area. Ephemeral draws were found, but none had a defined channel and did not appear to deliver surface flow to McKillop Creek.

**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		
<b>No-Action</b>														
Sediment	X				X				X					
Flow Regimes	X				X				X					
Woody Debris	X				X				X					
Stream Shading	X				X				X					
Stream	X				X				X					
Connectivity	X				X				X					
Populations	X				X				X					
<b>Action</b>														
Sediment		X				X				X			Y	F-1
Flow Regimes	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		
Woody Debris	X				X				X					
Stream Shading	X				X				X					
Stream	X				X				X					
Connectivity	X				X				X					
Populations		X				X				X			Y	F-2

*Comments:*

**F-1:** 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 a fish-bearing stream and leave a low risk of direct, secondary or cumulative impacts to water quality and fish habitat.

**F-2:** Provided the measures listed in F-1 and the mitigation measures listed in the water quality portion of this analysis are followed, there is a very low risk of adverse direct, secondary or cumulative impacts to fish populations as a result of the proposed project.

*Fisheries Mitigations:*

- All proposed harvesting activities would take place outside of the established 96-foot riparian management zone to ensure woody debris, stream shading and stream temperature values are maintained

**WILDLIFE:**

**No-Action:** None of the proposed activities would occur. In the short-term, forest insects and disease will likely continue to kill some mature trees. The additional loss of old-growth trees would be expected due to the high prevalence of insects and disease already present in some individuals. An increase in stand-replacement wildfire risk would be anticipated. In the long-term, habitat suitability for mature forest-associated species would remain similar compared to current conditions.

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



Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>Lynx</b> ( <i>Felis lynx</i> ) Habitat: SF hab.types, dense sapling, old forest, deep snow zone			X				X			X			Y	WI-2
<b>Yellow-billed cuckoo</b> ( <i>Coccyzus americanus</i> ) Habitat: open cottonwood riparian forest with dense brush understories (Lake and Flathead counties)	X				X				X					WI-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					WI-4
<b>Black-backed woodpecker</b> ( <i>Picoides arcticus</i> ) Habitat: Mature to old burned or beetle-infested forest	X				X				X					WI-3
<b>Common loon</b> ( <i>Gavia immer</i> ) Habitat: Cold mountain lakes, nest in emergent vegetation	X				X				X					WI-3
<b>Fisher</b> ( <i>Martes pennanti</i> ) Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian			X				X			X			Y	WI-5
<b>Flammulated owl</b> ( <i>Otus flammeolus</i> ) Habitat: Late- successional ponderosa pine and Douglas-fir forest		X				X				X			Y	WI-6
<b>Peregrine falcon</b> ( <i>Falco peregrinus</i> )	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		
Habitat: Cliff features near open foraging areas and/or wetlands														
<b>Pileated woodpecker</b> <i>(Dryocopus pileatus)</i> Habitat: Late-successional ponderosa pine and larch-fir forest			X				X				X		Y	WI-7
<b>Fringed myotis</b> <i>(Myotis thysanodes)</i> Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines	X				X				X					WI-3
<b>Hoary bat</b> <i>(Lasiurus cinereus)</i> Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges		X				X				X			Y	WI-8
<b>Townsend's big-eared bat</b> <i>(Plecotus townsendii)</i> Habitat: Caves, caverns, old mines	X				X				X					WI-3
<b>Wolverine</b> <i>(Gulo gulo)</i> Habitat: high elevation areas that retain high snow levels in late spring	X				X				X					WI-3
<b>Big Game Species</b>														
<b>Elk</b>			X				X			X			Y	WI-9
<b>Whitetail</b>			X				X			X			Y	WI-9
<b>Mule Deer</b>			X				X			X			Y	WI-9
<b>Other</b>														
<b>Mature Forest</b>				X				X			X			WI-10
<b>Old-growth Forest</b>				X				X			X			WI-10

*Comments:*

**WI-1. Grizzly Bear** – The project area is not within a recovery zone and is more than 2.5 miles from non-recovery occupied habitat (Wittinger 2002). Additionally, the closest recovery zone habitat is associated with the Cabinet-Yaak Ecosystem (CYE), which contains very low densities of grizzly bears (Kasworm et al. 2020). While occasional presence of a grizzly bear in the parcel is possible, appreciable use by grizzly bears would not be expected due to the distance from occupied grizzly bear habitat. As grizzly bears continue to expand their range outside of recovery zones, bears could occasionally travel through the parcel during their long-range movements, but appreciable changes to potential movement patterns would not be anticipated under the Action Alternative.

**WI-2. Canada Lynx** – Approximately 506 acres of suitable lynx habitat (88.1% of existing suitable habitat in the Project Area) would be altered by the proposed Action Alternative. Of these acres, 411 acres would be treated with harvest prescriptions that would not retain enough conifer cover to continue providing suitable lynx habitat immediately post-harvest. The remaining 95 acres would receive treatments that would reduce some suitable habitat attributes but would continue to provide suitable lynx habitat overall. 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, 10 to 15 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  $\geq 15$ -inch diameter would be emphasized. Lynx habitat connectivity within the Project Area would be reduced; however, suitable lynx habitat would remain in 28.5% of the Project Area and include an east-west corridor of suitable habitat maintained through the Project Area via a riparian management zone (RMZ). This suitable habitat corridor would remain connected to a larger block of suitable habitat on USFS lands to the west. Any lynx that might be using the area could temporarily be displaced from the Project Area for up to four years by the proposed activities. Disturbance/displacement and habitat alteration by the proposed DNRC activities would be additive to recent or ongoing forest management projects on private and USFS lands within the larger surrounding area. Despite the lack of recent observations (MNHP 2022), the larger cumulative effects area (hereafter large CEAA) consists of approximately 49.5% suitable habitat for lynx and provides sufficient 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. Bald Eagle** – No known active bald eagle nests or territories are in the vicinity of the Project Area.

**WI-5. Fisher** – Approximately 365 acres of suitable fisher habitat would be affected by the proposed activities (85.1% of fisher habitat available in the Project Area). Of the suitable habitat acres, 265 acres would not be suitable for fishers post-harvest due to low amounts of mature conifer cover. Old-growth maintenance treatments on 100 acres of suitable fisher habitat would reduce live tree densities but retain adequate crown closure for potential use by fishers. No riparian fisher habitat would be harvested. To reduce some 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. Some connectivity would remain across the Project area within the RMZ corridor and would provide connectivity to suitable cover types to the west. However, connectivity would be limited to the south where much of the remaining suitable cover types still exist on the landscape. Overall, given the lack of fisher observations (MNHP 2022), the likelihood of fishers using the Project Area or large CEAA is low. Should any fishers be present within the large CEAA, habitat alteration and potential disturbance under the Action Alternative would be additive to any activities occurring or planned on surrounding private and USFS lands. However, considering the relatively small amount of potential fisher habitat harvested at the scale of the large CEAA (5.0%), and absence of fisher observations (Krohner 2022, MNHP 2022), negligible effects to fishers in the larger CEAA would be expected.

**WI-6. Flammulated Owls** – The proposed timber harvest would affect approximately 11 acres (19.5% of potential habitat in the Project Area) of preferred flammulated owl cover types. Approximately 5 of these acres are currently too densely forested to be considered suitable for flammulated owl use. Of the 11 acres, 10 acres of flammulated owl cover types would undergo harvest treatments that would maintain or improve habitat suitability by creating more open forest structure. The remaining 1 acre would be treated with a harvest prescription causing this area to become unsuitable for flammulated owl use post-harvest. Suitable flammulated owl habitat would likely persist on 8.9% of the Project Area with an overall improvement in habitat conditions. Preservation of large snags and patches of submerchantable trees (if available) in these units could conserve forest structure favoring use by flammulated owls. All treatments would reduce tree density within the stand and would favor seral species, which would create more open forest stand conditions potentially beneficial to flammulated owls in the long term. To retain potential nesting trees for flammulated owls, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (ARM 36.11.411). If harvesting occurred during the summer or early fall period, flammulated owls could be temporarily displaced by the proposed activities. Within the 5,904-acre small cumulative effects analysis area (hereafter small CEAA), an estimated 624 acres of forest stands could be potentially suitable for flammulated owls; however, snags available for nesting are likely limited in some areas due to differing snag conservation philosophies on surrounding private ownerships.

**WI-7. Pileated Woodpecker** – The proposed activities would affect 486 acres of suitable pileated woodpecker habitat (89.9% of habitat available in the Project Area). Of these acres, 391 acres (72.4% of the habitat available in the Project Area) would be treated with harvest prescriptions causing these stands to become unsuitable for pileated woodpecker use post-harvest. The remaining 95 acres would undergo less intensive harvesting and would likely retain some suitable habitat for pileated woodpeckers post-harvest, although fewer large trees and snags available for nesting and foraging. Approximately 138 acres (25.6%) of suitable pileated habitat would remain within the Project Area post-harvest. To decrease 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, 10 to 15 tons/per acre of downed wood would be retained, with an emphasis on logs >15" diameter. The Project Area would likely continue to support breeding pileated woodpeckers if they are currently present, although any territory would be expected to extend outside of the Project Area into the small CEAA as well. Habitat availability within the small CEAA is limited due to past timber harvesting on surrounding private lands; however, 1,753 acres (29.7% of the small CEAA) would remain as suitable habitat. Habitat alterations due to the proposed action would be additive to recent forest management projects on adjacent private lands. Overall, continued use of the small CEAA by pileated woodpeckers would be anticipated.

**WI-8. Hoary bat** – The proposed activities would affect approximately 519 acres of potential hoary bat habitat. Because hoary bats typically roost in trees and snags, they could be temporarily disturbed by timber harvesting. Potential disturbance would only be expected from June through September, when hoary bats are in Montana. After the conclusion of activities, continued use of harvested areas by hoary bats would be anticipated. 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. Hoary bats are considered common and widespread throughout Montana, but wind energy and diseases such as white-nosed syndrome pose threats to their population (Bachen et al 2020).

**WI-9. Big Game** – The proposed activities would reduce thermal cover and snow intercept on potential white-tailed deer, mule deer, elk, and moose winter range (DFWP 2008). Timber harvesting would affect 375 acres of thermal cover and an additional 25 acres of marginal thermal cover (71.9% of total thermal cover available in the Project Area). All these acres would be treated with harvest prescriptions that would reduce mature canopy cover to 15-20%; reducing the capacity of these stands to provide thermal cover during more severe winter conditions. Additionally, 100 acres of thermal cover (17.9% of thermal cover available in the Project Area) would be treated with an old-growth maintenance prescription and would retain roughly 40% canopy cover, maintaining marginal thermal cover/snow intercept. Approximately 501 acres (89.4% of the Project Area) of hiding cover would be altered by harvesting. Harvest prescriptions leaving 15-30 mature trees per acre, plus retention of some regenerating conifers and submerchantable trees (which are present in patches throughout most of the Project Area) would maintain adequate hiding cover in most of the Project Area postharvest. Visual screening would be retained adjacent to open roads to increase security and reduce human-caused mortality. Additionally, 0.8 mile of existing open roads and 0.2 mile of illegal access roads would be permanently bermed or gated and effectively closed to public motorized use. Thus, security for big game would increase with the closure of 1.0 mile of existing road. Impacts to hiding cover and thermal cover/snow intercept under the Action Alternative would be additive to any ongoing vegetation management projects on lands within the larger 57,087-acre surrounding area (large CEAA). Thermal cover would remain on 15,288 acres of the large CEAA (26.8% of the large CEAA) and would be located almost entirely on USFS land. Hiding cover would remain relatively abundant within the large CEAA (66.6% of the large CEAA). Overall, 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/Old-growth Forest** – The proposed action would harvest approximately 466 acres of mature forest (90.8% of mature forest within the Project Area) with a reasonably closed canopy ( $\geq 40\%$  canopy closure). In total, prescriptions covering 412 acres (65.2% of the Project Area) would reduce live tree densities and bring overstory canopy cover below 40%. Of these acres, 159 acres of old-growth forest (67.0% of old-growth within the Project Area) would be harvested and removed from old-growth status. Thus, these stands would no longer be suitable for wildlife species preferring dense mature forest with more shaded canopies. An additional 41 acres of old-growth would be treated with a maintenance treatment and remain old-growth forest. Existing old-growth stands proposed for harvest removal in the Project Area barely contain sufficient live trees (by Green et. al standards) and have a high prevalence of insects and disease; these stands are expected to fall out of old-growth status due to active tree mortality within the next 10 years. Due to these concerns, they would be treated with regeneration harvests. Total crown closure in some areas could still meet or exceed 40% with the retention of submerchantable and regenerating conifers in the understory. At the same time, habitat suitability for species utilizing younger stands and open forest with widely scattered mature trees would increase. However, insects and disease will likely continue to affect mature



trees (and canopy closure) some areas, although the proposed management treatments would help slow their progression. Approximately 101 acres (16% of the Project Area) of mature forest would remain in the Project Area, of which 78 acres are also a single patch of old-growth forest. Connectivity of mature forest would be reduced, as larger patches in the Project Area would be removed by harvesting. Proposed harvesting would alter approximately 22.0% of existing mature forest within the small CEAA. Existing connectivity and abundance of mature forest within the small CEAA was already low due to past forest management on private lands and interspersed dry, open south-facing slopes; however, an east-west corridor of unharvested mature forest through the Project Area, via a riparian management zone (RMZ), would remain connected with other mature stands outside of DNRC lands within the small CEAA. The abundance and location of old-growth forest outside of the Project Area is generally unknown, but there are 31 acres of adjacent USFS lands within the small CEAA that could potentially be considered old-growth. Forest management projects on DNRC, USFS and private lands have removed mature forest and continue to alter mature forest stands within the small CEAA; the proposed action would be additive to these changes at the broader spatial scale. Mature forest abundance would remain relatively low (28.9%) and patchy through much of 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)*.
- Effectively close restricted roads and skid trails in the Project Area via a combination of gates, Kelly humps, rocks, and stumps. Maintain public motorized restrictions on restricted and temporary roads during and after harvest activities.
- Within commercial harvest units, retain patches of advanced regeneration trees per *ARM 36.11.428(4)(f)*.
- Maintain visual screening along open roads by conserving seedling and submerchantable trees.
- Retain at least 2 snags and 2 snag recruits per acre >21 inches dbh or the next available size class, particularly favoring ponderosa pine, western larch, and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit.
- Retain 10-15 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.



- Kasworm, W. F., T. G. Radandt, J. E. Teisberg, T. Vent, A. Welander, M. Proctor, H. Cooley and J. Fortin-Noreus. 2020. Cabinet-Yaak grizzly bear recovery area 2019 research and monitoring progress report. U.S. Fish and Wildlife Service, Missoula, Montana. 105 pp.
- Krohner, J. M. 2020. Finding fishers: determining the distribution of a rare forest mesocarnivore in the Northern Rocky Mountains. M.S. Thesis, University of Montana, Missoula, MT. 81 pp.
- Montana Natural Heritage Program (MTNHP). 2022. Environmental Summary Report. for Latitude 48.10081 to 48.18156 and Longitude -115.23071 to -115.32403. Retrieved on November 1, 2022, from <http://mtnhp.org/MapViewer>.
- 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.
- Wittinger, W. 2002. Grizzly bear distribution outside of recovery zones. Unpublished memorandum. Report on file at Unpublished memorandum on file at USDA Forest Service, Region 1, 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		
<b>No-Action</b>														
Smoke	X				X				X					
Dust	X				X				X					
<b>Action</b>														
Smoke		X			X				X				Y	AQ-1
Dust		X			X				X				Y	AQ-2

#### Comments:

AQ-1: Smoke would be generated from the burning of slash. The Montana/Idaho State Airshed Group guidelines would be followed, which require that burning occurs during periods of adequate airshed ventilation. Due to the infrequent burning that will occur, the direct impact will be low.

AQ-2: Dust may be created while hauling on the native surfaced roads during fall and summer months. Due to the temporary use of the roads the direct impact will be low.

*Air Quality Mitigations:* Abide by the state airshed rules and regulations.

#### 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					A-1
Aesthetics	X				X				X					
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					
<b>Action</b>														
Historical or Archaeological Sites		X				X				X			Y	A-2
Aesthetics		X				X				X			Y	A-3
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					

*Comments:*

A-1: Scoping letters were sent to those Tribes that requested to be notified of DNRC timber sales. No response returned 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 cultural or paleontological resources have been identified in the APE, but it should be noted that Class III level inventory work has not been conducted there to date. Because of past timber harvest work, and because the topographic setting and geology suggest a low to moderate likelihood of the presence of cultural or palaeontologic resources, proposed timber harvest 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.

A-2: If previously unknown cultural or paleontological materials are discovered during the project period, all work will cease until a professional assessment can be conducted.

A-3: Parts of the project area are visible from the McKillop Creek Road (NF-535). The project area is used for recreational activities. Treatment would open the stands to approximately 15-25 trees per acre.

**Mitigations:**

- Following harvest, roads, landings, and slash would be visible. Forest improvement work and burning of slash piles/landings would be planned within a year of harvest and this would speed up the recovery time of the vegetation that would eventually mitigate the impacts of logging.
- Harvested stands will be planned to be regenerated following harvest.
- New road construction would be grass seeded.
- If any previously unknown cultural or paleontological materials are identified, all work will stop until a professional is consulted.

**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.*

- The DNRC has an active land use license for McLaury Apiaries (LUL-3053485).

## 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	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					
<b>Action</b>														
Health and Human Safety		X			X				X				Y	H-1
Industrial, Commercial and		X			X				X				Y	H-2
Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment		X			X				X				Y	H-3
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					

**Comments:**

H-1: No unusual safety concerns are associated with the proposed project. Health and safety risks posed by the project would be minimal.

H-2: A consistent flow of timber contributes to the supply and demand of these timber products.

H-3: The proposed project would open employment opportunities locally in the logging industry.

**Mitigations:** N/A

**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.

- The DNRC is not aware of any zoning or other agency management plans affecting this project area.

**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 between \$480,000 – \$520,000 based on an estimated harvest of 3.7 – 4 million board feet (24,000 – 26,000 tons @ 6.5 tons/MBF) and an overall stumpage value of \$20.00 per ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

**References**

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

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

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

None that are known or anticipated.

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

None that are known or anticipated.

**Environmental Assessment Checklist Prepared By:**

**Name:** Alivia Shumaker  
**Title:** Management Forester  
**Date:** October 5, 2022

## Finding

### Alternative Selected

The action alternative meets the project objectives and is selected for implementation. The no action alternative fails to meet the stated objectives concerning this project.

### Significance of Potential Impacts

No significant impacts have been identified to occur as a result of the implementation of the action alternative.

### Need for Further Environmental Analysis

☐

EIS

☐

More Detailed EA

☒

X

No Further Analysis

### Environmental Assessment Checklist Approved By:

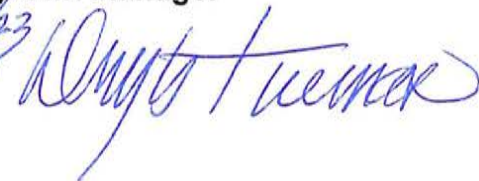
Name: Doug Turman

Title: Libby Unit Manager

Date:

7/19/23

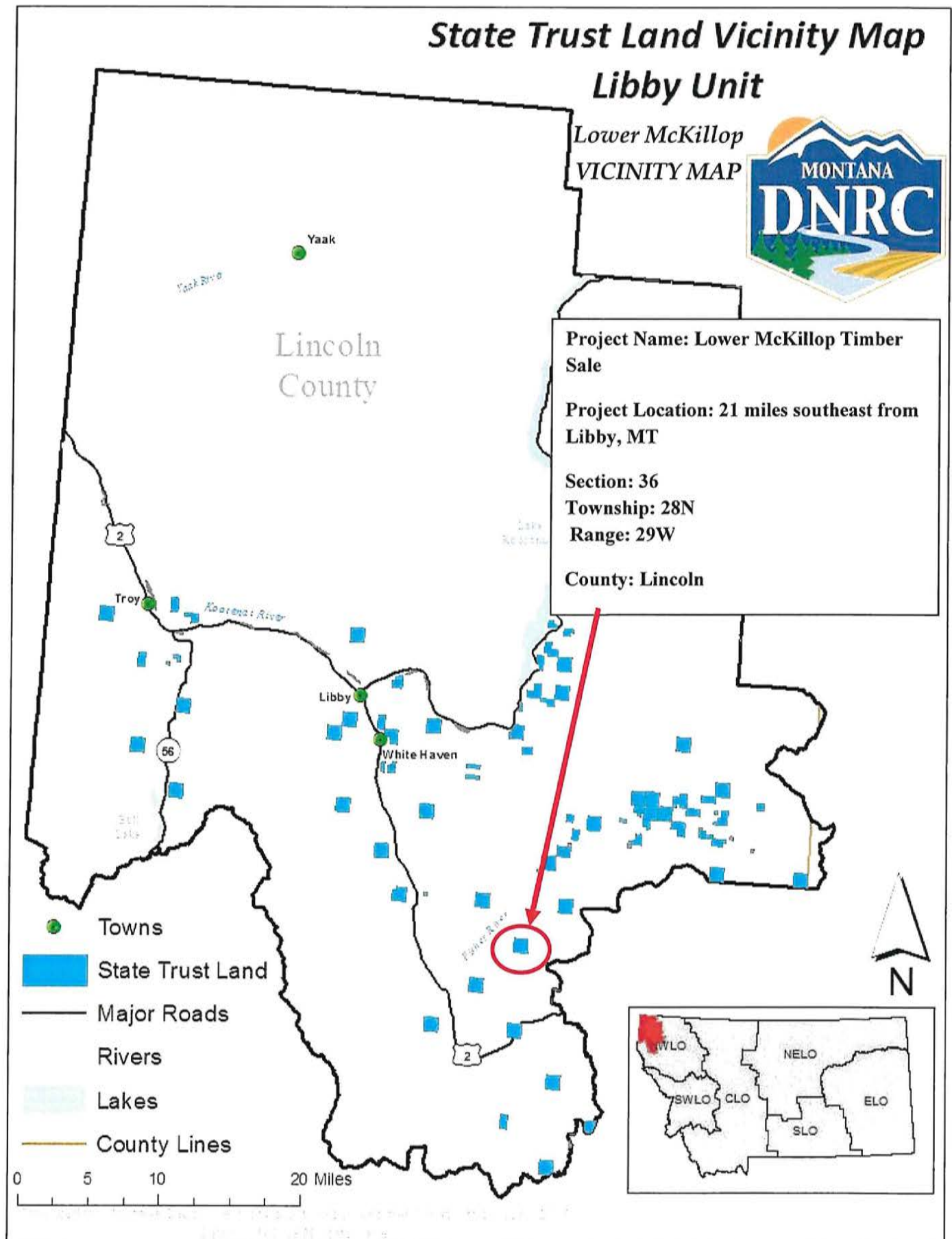
Signature:



## **Attachment A - Maps**



A-1: Timber Sale Vicinity Map



A-2: Timber Sale Map

