Environmental Assessment Checklist

Project Name: Canyon Creek Timber Sale
Proposed Implementation Date: May 2024
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 Canyon Creek Timber Sale. The project is located approximately 15 miles northeast 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			
Public Buildings	**Sections 14, 24 T31N R29W**	**1,082**	**618**
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:

- Reduce forest fuels
- Treat stands to encourage a healthier, more vigorous condition
- Move forested stands toward the desired future condition
- Generate approximately $481,000 - $585,000 in revenue for the Public Buildings Trust
- Increase DNRC accessibility to the parcel via new roads

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	
Shelterwood	618
Selection	
Old Growth Maintenance/Restoration	
Commercial Thinning	
Salvage	
Total Treatment Acres	**618**
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	618
Planting	618
Proposed Road Activities	# Miles
New permanent road construction	2.0
New temporary road construction	1.0
Road maintenance (Level 1 and 2)	12
Road reconstruction (Level 3)	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	Approximately 3-4 years
Implementation Period:	May 2024 – June 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:
  - April 13th, 2023 – May 15th, 2023
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: https://dnrc.mt.gov/News/scoping-notices
  - Statewide scoping list
  - Adjacent landowners
  - Lincoln Electric Cooperative, Inc.
  - Flathead Electric Cooperative, Inc.
- AGENCIES SCOPED:
  - Montana Fish, Wildlife and Parks
  - US Forest Service
  - Lincoln County
  - All Montana Tribal Organizations
- COMMENTS RECEIVED:
  - How many: 0
  - Concerns: 0
  - Results: No comments were received.

DNRC specialists were consulted, including: Alivia Shumaker (Management Forester), Dave Marsh (Forest Management Supervisor), Tim Spoelma (Silviculturist), Vicki Forristal (Area Wildlife Biologist), Josh Harris (Hydrologist), 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 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.

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:

    - Install one 18-inch CMPs in class III stream
    - Remove and reset/replace two 18-inch CMP in class III streams
    - Install one 24-inch CMP extension in class III stream
    - Install three 24-inch CMPs in class III streams
    - Install four armored drain dips/French drains in class III streams
    - Maintenance on one 18-inch CMP in class III stream

ALTERNATIVES CONSIDERED:

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

Action Alternative : A timber sale generating approximately 3.7 – 4.5 million board feet of timber would be harvested thus creating revenue for the Public Buildings Trust. The proposed timber sale would utilize a shelterwood harvest prescription. The prescription also includes removing approximately 22.1 acres of old growth 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 2 miles of permanent new road construction, approximately 1 mile of temporary road construction, and approximately 12.4 miles of existing road maintenance.

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	Moderately warm and dry (westside)	Low-to-mixed	Western Larch/Douglas Fir	100-149	Ponderosa Pine	Shelterwood Harvest	578.9 acres (22.1 acres old growth removal)
2	Moderately warm and dry (westside)	Low-to-mixed	Douglas Fir	100-149	Ponderosa Pine	Shelterwood Harvest	39.1 acres

Fire Hazard/Fuels: Stands to be treated consist of well stocked, mature overstory trees. Understory vegetation overall is sparse, there are pockets of mostly shade tolerant regeneration. A closed canopy limits the growth of regeneration and increases connectivity for the likelihood of a stand replacing wildfire. Stands are adjacent to private land with structures and United States Forest Service land.

Insects and Diseases: Larch dwarf mistletoe (*Arceuthobium laricis)* is present in western larch. Douglas-fir beetle (*Dendroctonus psuedotsugae)* is active in mature Douglas fir. Western pine beetle (*Dendroctonus brevicomis*) is present in patches of ponderosa pine.

Sensitive/Rare Plants: No plant species of concern were identified or documented.

Noxious Weeds: Spotted knapweed is 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		
No-Action														
Current Cover/DFCs		X				X				X			Y	V-1
Age Class	X				X				X					
Old Growth	X				X				X					
Fire/Fuels		X			X				X				Y	V-2
Insects/Disease		X				X				X			Y	V-3

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Rare Plants	X				X				X					
Noxious Weeds	X				X				X					
Action														
Current Cover/DFCs		X				X				X			Y	V-1
Age Class	X				X				X					
Old Growth			X			X				X			Y	V-4
Fire/Fuels		X			X				X				Y	V-2
Insects/Disease		X				X				X			Y	V-3
Rare Plants	X				X				X					
Noxious Weeds		X				X				X			Y	V-5

Comments: Details of timber harvest:

Shelterwood treatment: There will be one shelterwood treatment. Prescription will protect existing regeneration and provide daylight conditions for desirable tree species. 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: ponderosa pine (PP), western larch (WL), and Douglas fir (DF). Leave tree spacing would vary depending on overall tree condition and species. The average tree spacing would range between 35-40 feet. Unit 1 has approximately 22.1 acres of old growth that will be removed due to increased mortality from insects and disease. Natural regeneration would be encouraged but hand planting tree seedlings would be utilized to promote desired species and stocking levels as needed.

Vegetation Mitigations:

V-1: No action will have low impacts on current cover/desired future condition (DFC) as shade tolerant species will continue to grow and advance the stand away from the DFC of ponderosa pine. The action alternative will encourage cover types to move towards DFC through proposed harvest and reforestation activities.

V-2: No action will have low direct impacts as the mortality continues to increase each year due to forest health concerns. This aids in the accumulation of fuels, adding to the fire and fuel hazard.

V-3: Insect and disease threats would be significantly reduced through proposed harvest, hazard reduction, and reforestation.

V-4: There is a total of approximately 22.1 acres of old growth found in unit 1. Those acres will be removed from old growth status due to the increased mortality in the stand from insects and

disease. The percentage of old growth on Libby Unit post-harvest will be 9.0%. This would be a 0.1% reduction in old growth for Libby Unit.

V-5: 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.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

The designated project area is underlain geologically by the Ravalli Group, as outlined by Vuke et al. (2007). The rocks within the Ravalli Group are commonly characterized as agrillite, siltite, and quartzite due to alterations from diagenesis and greenschist facies metamorphism, transforming the initially muddy, silty, and sandy sediments (Cronin, 1988). The current soils in the area are predominantly dystric and typic eutrochrepts on glaciated mountain slopes, as reported by NRCS (2023). These soils carry a medium to low risk for compaction, displacement, and erosion.

Timber management activities have been ongoing in the area since the early 1900s. The previously established skid trails are gradually ameliorated as a result of root penetration and frost action. While remnants of past entries are still discernible, they are estimated to impact less than 5 percent of the project area. The project would include 12.6 miles of minor to moderate maintenance on existing roads. Approximately 1.9 miles of new permanent road and ≤1.0 mile of temporary road would be constructed. Increases to public access would be for non-motorized use only, as all permanent roads would be restricted by gates or berms and temporary roads would be re-contoured after logging is complete. Approximately ≤0.5 miles of existing road would be re-claimed as part of a re-routing plan on the State Spur Road.

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	S1
Erosion		x				x				x			Y	S2
Nutrient Cycling		x				x				x			Y	S3

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		
Slope Stability	x				x				x					
Soil Productivity		x				x				x			Y	S4

Comments:

S1. 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.

S2. Low impacts to soil erosion are possible due to exposure of bare soil during felling and yarding operations. Risk of erosion would be mitigated by implementing all applicable BMPs to harvesting activities.

S3. Based on research by Graham, et. al. (1994), habitat types found in the project area should have 8-24 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.

S4. Soil productivity would be impacted by temporary and permanent road construction and the use of ground-based machinery to yard timber. As stated in comment S1, 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:

1. Operations will be limited to periods when soils are relatively dry (less than 20 percent oven-dried weight), frozen, or snow-covered to minimize soil compaction and rutting and maintain drainage features. Soil moisture conditions will be monitored prior to equipment start-up.

2. 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.

3. Tractor skidding will be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive displacement or erosion.

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

5. Slash disposal: Limited to 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 40 percent unless the operation can be completed without causing excessive erosion.

6. Retain 8-24 tons per acre of large woody debris and a feasible majority of all fine litter following harvesting operations. On units where whole-tree harvesting is used, implement one of the following mitigations for nutrient cycling: 1) use in-woods processing equipment that leaves slash on site; 2) for whole-tree harvesting, return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.

References:

Cronin, Christopher, "Stratigraphy and sedimentation of the Ravalli Group (middle Proterozoic Belt Supergroup) in the Mission Swan and Flathead Ranges northwest Montana" (1988). *Graduate Student Theses, Dissertations, & Professional Papers.* 7552. https://scholarworks.umt.edu/etd/7552

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 falls within the Lower Kootenai River watershed, which has an area of 53 square miles. This watershed is predominantly forested, with approximately 98 percent of the land under federal and private ownership. It receives an average annual precipitation of 29 inches. Additionally, the watershed does not fall within a water quality use class region.

Within the project area are four discontinuous unnamed tributaries to Canyon Creek. One is a disjointed Class 2 tributary, which spans approximately 150 feet in the southeast corner of S24 T31N R29W. Furthermore, three non-perennial Class 3 streams flow from the northeast to the southwest across Unit 1 of the same section.

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

Comments:

W1. The project would include four new culverts installed on non-perennial class 3 streams. All applicable BMPs and requirements of a 124 permit from Montana FWP would be followed in order to minimize risk to water quality during installation. 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.

W2. Due to harvest systems utilized, location and size of harvest units relative to stream channels, 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 BMP and streamside buffers, this harvest level is not expected to result in measurable effects on the timing, magnitude, or duration of peak flows in disconnected downstream receiving waters.

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:

Westslope Cutthroat, Rainbow Trout, and Eastern Brook Trout are known to populate Canyon Creek, located below the proposed project area, according to the Montana Department of Fish, Wildlife and Parks' FishMT website. Surface waters identified within the project area are disconnected and do not flow directly to Canyon Creek. No severe bank erosion or channel down-cutting areas were identified during field survey. No fish-bearing stream channels were identified in the proposed project area.

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					
Action														
Sediment	x				x				x					
Flow Regimes	x				x				x					
Woody Debris	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		
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 1,082 acres. The Project Area is comprised of habitat conditions that favor native wildlife species that utilize closed-canopy mature forest. The parcel is included in DNRC's Habitat Conservation Plan (USFWS and DNRC 2010). The Project Area contains 833 acres of mature forest stands (trees ≥9" dbh with ≥40% canopy closure) which includes approximately 22 acres of old growth using Green et al. (1992) standards. Additionally, there are 87 acres of mature stands with a more open canopy and 162 acres of well-stocked submerchantable timber with a relatively closed canopy. There are 6.9 miles of existing roads within the Project Area, including 4.0 miles of restricted roads and 2.9 miles of open and seasonally open roads which receive moderate use. Public non-motorized use is likely low in this parcel except during the big game hunting season when it likely elevates.

Cumulative effects analysis areas (CEAA) encompass lands near the Project Area and include the 7,246-acre Small CEAA for animals with smaller home ranges like pileated woodpeckers and fishers, and a 31,929-acre Large CEAA for animals that travel across larger areas such as big game. Ownership in the Large CEAA consists of 7.5% DNRC, 89.4% USDA Forest Service, 1.9% industrial forest lands, 1.0% private land and 0.2% Army Corp of Engineers. Primary land uses in the CEAAs are commercial timber harvest and outdoor recreation. There are multiple recent, ongoing and planned forest projects in the area including the U.S. Forest Service East Reservoir Project (USDA 2014) and the DNRC Cripple Horse 12 Timber Sale (DNRC 2022). Changes to wildlife habitat due to ongoing and planned USFS forest management were accounted for in this analysis. Additional information on cumulative effects analysis areas and analysis methods are available upon request. Overall, conditions within the Project Area favor wildlife species using habitat with larger trees and more dense forest.

No-Action Alternative: None of the proposed activities would occur. 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.

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					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-4
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		X				X				X			Y	WI-5

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
(Martes pennanti) 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			Y	WI-6
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-7
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-8
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-9
Townsend's big-eared bat *(Plecotus townsendii)*	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: Caves, caverns, old mines														
Big Game Species														
Elk			X				X			X			Y	WI-10
Whitetail				X				X		X			Y	WI-10
Mule Deer			X				X			X			Y	WI-10
Moose		X				X				X			Y	WI-10
Other														
Mature Forest				X				X		X			N	WI-11
Old Growth				X				X		X			N	WI-12
Northern Goshawk			X				X			X			Y	WI-13

Comments:

WI-1. Grizzly Bear – The Project Area is not within a recovery zone and is over 6.5 miles from non-recovery occupied habitat (Wittinger 2002). While occasional presence of a grizzly bear in the parcel is possible, appreciable use by grizzly bears would not be expected due to the Project Area's small size, absence of preferred habitat and 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.

WI-2. Canada Lynx – The Project Area is comprised of 136 acres (12.6% of Project Area) of suitable lynx habitat. The proposed shelterwood prescription would remove 65 acres (47.9%) of suitable lynx habitat in the Project Area. Conifer canopy cover would be reduced such that these stands would be temporarily unsuitable lynx habitat. After harvest, 71 acres (6.6% of Project Area) would continue to provide suitable habitat for lynx in the Project Area. To ensure that forest structural attributes preferred by snowshoe hares remain following harvest, some dense patches of advanced regeneration would be retained within portions of lynx winter forage habitat. Additionally, 10 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. Within the Project Area, existing connectivity of lynx habitat is poor and would be further reduced by harvest. Post-harvest, suitable lynx habitat in the Large CEAA would be reduced from 63.3% to 63.1%, and habitat in the Large CEAA would remain well connected. However, if present near the Project Area, lynx could be temporarily displaced by forest management activities for up to 4 years. Disturbance/displacement and habitat alteration by the proposed activities would be additive to recent and planned harvests on USFS lands (USDA 2014) and DNRC lands (DNRC 2018, DNRC 2022). While some suitable lynx habitat is present within a portion of the Project Area, appreciable use of the area by lynx is unlikely because of low winter snow loads and drier, unsuitable forest types in and adjacent to the Project Area. There are no records of lynx in the Large CEAA in the last 30 years (MTNHP 2020).

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 – The Project Area falls within the territories of the Yarnell Island bald eagle pair (MTNHP 2024). The proposed harvest is located approximately 1 mile from the nest sites and over ½ mile from the shoreline of Lake Koocanusa. Appreciable use of the Project Area by bald eagles during the breeding season would not be expected due to the distance from the nest sites and from the shoreline of Lake Koocanusa where the eagles are likely to forage. However, any eagles foraging in close vicinity to active harvesting operations could temporarily be displaced. Proximity of the nest sites to open roads, campgrounds, and boating traffic suggests that these eagles are habituated to moderate levels of human disturbance and would not likely be appreciably affected by the proposed harvest activities. Thus, negligible adverse direct, secondary, or cumulative effects to bald eagles would be anticipated.

WI-5. Fisher – Currently, there are approximately 167 acres (15.4% of the Project Area) of suitable fisher habitat in the Project Area. The proposed shelterwood prescription would remove 110 acres (66.2% of available habitat in the Project Area) of fisher habitat. No riparian fisher habitat would be impacted by the proposed activities. 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). Existing connectivity of fisher habitat in the Project Area is poor because existing forest types are not preferred by fisher. Connectivity of habitat would further decrease following logging. Post-harvest, 56 acres (5.2% of the Project Area) in the Project Area would continue to provide suitable habitat for fishers. Approximately 1.9 of new permanent road and ≤1.0 mile of temporary road would be constructed, which could increase fur trapper access into the Project Area. Increases to public access would be for non-motorized use only, as all permanent roads would be restricted by gates or berms and temporary roads would be closed after logging is complete. Additionally, 0.4 miles of currently open road would be closed to public motorized access, further restricting motorized access. Suitable fisher habitat would remain in 30.9% (2,241 acres) of the Small CEAA. Should any fishers be present within the Small CEAA, habitat alteration and potential disturbance would be additive to any activities occurring or planned on surrounding lands, including recent USFS (USDA 2014) forest management projects on adjacent lands. However, the likelihood of fishers using the Project Area or CEAA is low given the lack preferred habitat and absence of fisher observations in the area within the last 30 years (Krohner et al. 2022, MTNHP 2024).

WI-6. Flammulated Owl – The proposed timber harvest would affect approximately 550 acres (58.2% of habitat in the Project Area, 12.3% of habitat in the Small CEAA) of suitable flammulated owl habitat. The proposed shelterwood harvest prescription would reduce tree density within the stand and would favor mature seral species, which would create more open forest stand conditions potentially beneficial to flammulated owls. 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*). Suitable flammulated owl habitat within the Small CEAA is moderately abundant and increasing due to recent forest management projects. The proposed harvesting on DNRC lands would increase effective patch size of suitable habitat when combined with adjacent USFS lands. With an increase in patch size, habitat suitability for flammulated owls would improve compared to existing conditions. Overall, minor beneficial impacts to flammulated owls would be expected under the Action Alternative.

WI-7. Pileated Woodpecker – The proposed activities would affect 551 acres of suitable pileated woodpecker habitat (70.5% of habitat available in the Project Area). These acres would be treated with a shelterwood prescription that would reduce the mature canopy cover to 24%-32% making these stands unsuitable for use by breeding pileated woodpecker post-harvest. Proposed harvesting would retain 27 to 36 mature trees an acre and some occasional use by

foraging woodpeckers is possible, but nesting is not expected. 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, 10 to 24 tons/per acre of downed wood would be retained, with an emphasis on logs >15" diameter. Habitat connectivity would be reduced in the Project Area, particularly in section 24 where 89.4% of existing habitat will be harvested. The proposed activities would reduce pileated woodpecker habitat in the Small CEAA by 7.6%. However, 4,234 acres (58.4% of Small CEAA) of suitable habitat in the Small CEAA will remain relatively well-connected and continued use of the Small CEAA by pileated woodpeckers would be anticipated. The habitat alterations to the proposed project would be additive to other forest management activities in the Small CEAA including recent harvests on USFS lands (USDA 2014).

WI-8 Fringed myotis - Approximately 618 acres of potential fringed myotis habitat would be affected by the proposed timber harvest. Fringed myotis utilize a variety of habitats and roost sites including pine and Douglas-fir forests and rock crevices (Keinath 2004). Potential disturbance would only be expected from April through October, when fringed myotis are in Montana. If present in the Project Area, they could be temporarily displaced by timber harvesting. To minimize impacts to fringed myotis, 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.

WI-9. Hoary bat – The proposed activities would affect approximately 618 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. 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.

WI-10. Big Game – The entire 1,082-acre Project Area is considered winter range for white-tailed deer, mule deer, moose, and elk (DFWP 2008). The proposed harvest would impact 618 of these acres (57.1% of available winter range in the Project Area). High thermal cover for big game occurs where canopy closure is ≥60% and conifers are ≥8 meters tall. Marginal thermal cover includes areas where forest canopy closure is 40-60% and conifers are ≥8 meters tall. The proposed activities would remove 400 acres (91.4%) of high thermal cover in the Project Area and 218 acres (45.3%) of marginal thermal cover in the Project Area. The proposed shelterwood harvest would result in canopy cover of 24%-32% and resulting stands would have little capacity to provide effective thermal cover and snow intercept. However, slopes with southerly aspects and lower snow loads may continue to provide limited thermal benefits for wintering big game. Retaining healthy sub-merchantable trees and saplings where present would provide additional cover and increase thermal cover/snow intercept. Post-harvest, 467 acres (46.1% of Project Area) of marginal and high thermal cover would remain in the Project Area. Remaining cover would be poorly connected in section 24 and well connected in section 14. Overall, the Project Area would still be able to support ungulate use during the winter, but the capacity of this habitat would be lowered due to reductions in thermal cover. Connectivity to potential thermal cover on adjacent lands would be reduced as large patches of mature forest would be removed, particularly in section 24. Post-harvest, total marginal and high thermal cover/snow intercept in the Large CEAA would be reduced from 60.5% to 58.6%. Reductions to thermal cover abundance and under the Action Alternative would be additive to other forest

management activities in the CEAA including recent harvests on USFS lands (USDA 2014) and DNRC lands (DNRC 2018, DNRC 2022).

Hiding cover within the Project Area would be reduced by 618 acres (58.0% of available hiding cover). Retaining some regenerating conifers and submerchantable trees within the harvest units would increase the amount of available hiding cover and combine with some undulating topography to reduce sight distances in the Project Area. Post-harvest, approximately 448 acres (41.4% of Project Area) within the Project Area will retain tree density sufficient to provide hiding cover. Approximately 1.9 miles of new permanent restricted road and ≤1.0 mile of temporary road would be constructed. This could increase non-motorized public access into the Project Area as all permanent roads would be restricted by gates or berms, and temporary roads would be closed after harvest activities are complete. Additionally, 0.4 miles of currently open road would be closed to public motorized access, further restricting motorized access. An increase in roads facilitating human access combined with a reduction in hiding cover could result in increased mortality risk to big game species due to hunting. Impacts to hiding cover, security and thermal cover/snow intercept under the Action Alternative would be additive to forest management projects within the Large CEAA, including recent harvests on USFS lands (USDA 2014) and DNRC lands (DNRC 2018, DNRC 2022). The proposed harvest would reduce hiding cover in the Large CEAA by 1.9%, however hiding cover would remain abundant (83.1% of the Large CEAA) within 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-11. Mature Forest – The proposed action would harvest approximately 585 acres of mature forest (70.3% of mature forest within the Project Area). Shelterwood harvest on all 585 acres would reduce live tree densities to approximately 27-36 trees per acre and reduce overstory canopy cover to 24%-32%, which is too open to be considered mature forest. 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. The proposed harvest would result in a forest structure more similar to recent and proposed harvest on USFS parcels that border the Project Area (USDA 2014) making a larger, more uniform patch characteristic of natural disturbance patterns like wildfire. Connectivity of mature forest in the Project Area would be reduced, as large patches of mature forest would be removed by harvesting. However, 248 acres (22.9% of the Project Area) of mature forest would remain in the Project Area and provide some connectivity to other stands within the Small CEAA. Within the Small CEAA, proposed harvesting would remove approximately 15.2% of existing mature forest and these changes would be additive to forest management activities occurring at a broader spatial scale. Mature forest would remain moderately abundant (45.2% of the Small CEAA) and relatively well connected throughout the Small CEAA.

WI-12 Old-growth - The proposed activities would affect 22 acres of old-growth (100.0% of old-growth available in the Project Area). These stands would be treated with shelterwood treatments and would not meet old-growth standards post-harvest (Green et al. 1992) and would no longer support old-growth associated wildlife species. However, patches of old-growth less than 80 acres in size are not considered large enough to provide suitable habitat for a full suite of old-growth associated wildlife species (Harger 1978), therefore species using the existing old-growth may be limited due to the relatively small patch size. Within the Small CEAA, there is no old-growth on DNRC-managed lands outside of the Project Area. On non-DNRC lands in the Small CEAA, there are approximately 2,875 acres of mature forest, of which 156 acres could potentially have old-growth characteristics. After the proposed harvest activities, the abundance of old-growth in the Small CEAA would remain low; old-growth stands would remain

poorly connected and consist of relatively small patches. To reduce some adverse impacts on wildlife associated with old-growth at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained and all snags cut for safety reasons would be left in the harvest unit (*ARM 36.11.411*).

WI-13. Northern Goshawk – A northern goshawk nest was identified in the Project Area in section 24 in the summer of 2023. An adult goshawk was acting aggressively in the nest area, indicating the presence of young. Should the territory remain active, timing restrictions will be implemented within ¼ mile of the nest to minimize disturbance to nesting goshawks (*see Wildlife Mitigations section*). Initial road work and hauling on Cripple Canyon Road (4925) would be permitted as these goshawks have demonstrated a tolerance for disturbance that exists along this corridor. The nest tree and all trees within a 100-foot radius of the nest tree would be retained to avoid damage to the nest tree and retain habitat features in the immediate vicinity of the nest. Additionally, approximately 13 acres surrounding the nest area will not be harvested. Goshawks are forest generalists that prefer high canopy closure nest sites (Squires and Reynolds 1997), therefore the proposed harvest could alter mature forest habitat to a degree that goshawks may consider this particular nest site unsuitable for nesting post-harvest. Post-harvest, approximately 45.2% of the Small CEAA would remain mature forest and could provide alternative nest sites. Moderate adverse direct, secondary, and cumulative effects to northern goshawks would be anticipated as a result of the Action Alternative.

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 trials 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 harvest Unit 1, retain patches of advanced regeneration of shade-tolerant trees as per LY-HB4 (USFWS and DNRC 2010).
- 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 and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit.
- Retain 10-24 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).
- Consider feathering corners and edges of harvest units along boundaries of Project Area to produce more natural-looking disturbance patterns.
- Goshawk mitigations:
    - Retain all trees within a 100-foot radius of the nest tree.
    - Harvesting activities and new road building would be prohibited from April 1-August 15 within the ¼ mile buffer.
    - Initial road work and hauling would be permitted during this the timing restriction on the open road, 4925 Cripple Canyon Road.

- Hauling on the new roads in the southwest corner of the parcel would be allowed under the following conditions:
- Trees south of Cripple Canyon Road and within the ¼ mile buffer would not be harvested until after August 15th (i.e., left standing to provide visual screening around the nest)
- Hauling would be restricted in this area from April 1 to July 1 to minimize the risk of nest abandonment. Trees south of Cripple Canyon Road and within the ¼ mile buffer must remain unharvested for hauling to be permitted between July 1 and August 15.
- Survey(s) will be conducted each spring to determine if the nest is occupied or if an alternate nest site is occupied.
- If an alternate nest site is found to be occupied, mitigations will be adjusted accordingly.
- Timing restrictions may be lifted if the territory is unoccupied.

Literature:

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/

DNRC. 2018. Cripple Horse Timber Sale Environmental Assessment Checklist. Montana Department of Natural Resources and Conservation; Libby Unit, Libby, MT.

DNRC. 2022. Cripple Horse 12 Timber Sale Environmental Assessment Checklist. Montana Department of Natural Resources and Conservation; Libby Unit, Libby, MT.

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.

Harger, R. 1978. Old-growth Forests: Managing for Wildlife. USDA Forest Service, Northern Region. Missoula, MT 55pp.

Krohner, J. M., Lukacs, P. M., Inman, R., Sauder, J. D., Gude, J. A., Mosby, C., Coltrane, J. A., Mowry, R. A. and J. J. Millspaugh. 2022. Finding fishers: determining fisher occupancy in the Northern Rocky Mountains. The Journal of Wildlife Management, 86(2): 1-20.
MTNHP. 2024. Natural Heritage Map Viewer. Montana Natural Heritage Program. Retrieved on January 18, 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.

Squires, J.R. and Reynolds, R.T., 1997. Northern goshawk (*Accipiter gentilis*). In: Poole, A.; Gill, F., eds. The Birds of North America, No. 298. Washington, DC: The Academy of Natural Sciences Philadelphia, PA; The American Ornithologists' Union. p. 1-31.

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.

USDA Forest Service. 2014. East Reservoir Final Record of Decision. Libby Ranger District, Libby, 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			Y	AQ-1
Dust		X			X				X				Y	AQ-2

Comments:
AQ-1: The project area is in Montana Airshed 1. Smoke would be generated from the burning of slash. Slash piles consist of tree limbs, tops, and vegetative debris that would be created throughout harvesting operations. The Montana/Idaho State Airshed Group guidelines would be followed. Due to the infrequent burning that will occur, the impacts are expected to be low.

AQ-2: Dust may be generated from log hauling activities localized to skid trails and haul routes during periods of dry conditions. Due to the temporary use of the roads and skid trails the direct impacts are expected to be low.

Air Quality Mitigations:

- Abide by the state airshed rules and regulations and Montana Department of Environmental Quality.
- The DNRC would burn on approved days. Thus, direct, secondary, and cumulative effects to air quality due to slash pile burning would be minimal.
- Dust abatement may be required on portions of roads affecting residences if deemed necessary by the Forest Officer.

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					
Action														
Historical or Archaeological Sites		X				X				X			Y	A-1
Aesthetics		X				X				X			Y	A-2
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 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 resources have been identified in the APE, but one historic cultural resource is present. This consists of 24LN1902 (Camp 6 or Ole's Camp of the Baird & Harper Lumber Company logging camp remnants). Additionally, Class III level inventory work has variously occurred in portions of the APE in response to past logging operations. Because site 24LN1902 can be avoided, 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.

A-2: The project area, most proposed harvest units and roads would be visible from the open roads listed: Highway 37, Cripple Canyon (NF- 4925) and NF- 4925A. The project area is used for recreational activities. Treatment would open the stands to approximately 27-36 trees per acre or 35-40 foot spacing.

Mitigations:

- Following harvest, roads, landings, and slash would be visible, but forest improvement work and burning of slash piles and landings would be planned within a year of harvest and this would speed up the recovery of the vegetation that would eventually mitigate the impacts of logging.

- Harvested stands would be planned to be regenerated following harvest.
- New road construction would be grass seeded.
- 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.*

- Kootenai National Forest, East Reservoir Final Environmental Impact Statement – August, 2014

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					

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		
Cultural Uniqueness and Diversity	X				X				X					
Action														
Health and Human Safety		X			X				X				Y	H-1
Industrial, Commercial and Agricultural Activities and Production		X			X				X				Y	H-2
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.*

DNRC is not aware of any other environmental documents pertaining to this 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 Public Buildings Trust. The estimated return to the trust for the proposed harvest is $481,000 - $585,000 based on an estimated harvest of 3.7 - 4.5 million board feet (24,050 – 29,250 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 Schumaker and Logan Sandman
Title: Management Forester and Fire Management Officer, respectively
Date: 2/2/2024

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

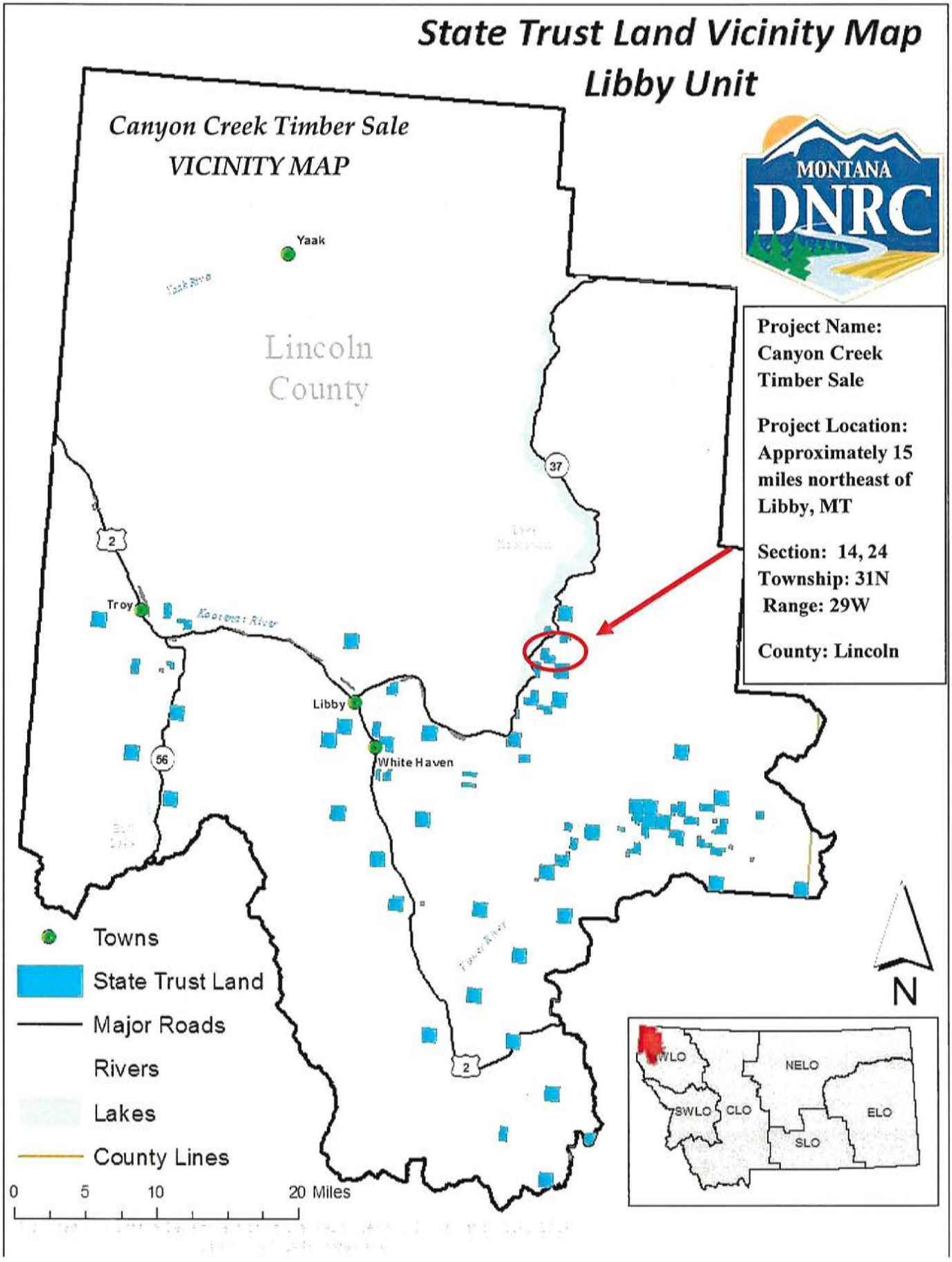
☐	EIS	☐	More Detailed EA	X	No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Doug Turman
Title: Libby Unit Manager
Date: 2/20/24
Signature: /s/

Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units