Environmental Assessment Checklist

Project Name: Cripple Horse 12 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 Cripple Horse 12 Timber Sale. The project is located approximately 15 miles Northeast of 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	Section 12, T31N, R29W	**200**	**151**
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.
- Generate an estimated $307,770 to the Public Buildings Trust.
- Increase accessibility to the parcel.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	
Shelterwood	151
Selection	
Old Growth Maintenance/Restoration	
Commercial Thinning	
Salvage	
Total Treatment Acres	**151**
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	
Planting	**151**
Proposed Road Activities	# Miles
New permanent road construction	0.8
New temporary road construction	
Road maintenance	1.6
Road reconstruction (would later be abandoned if used)	0.6
Road abandoned (already abandoned – but would be re-abandoned following use, if used)	0.6
Road reclaimed	
Other Activities	

Duration of Activities:	Approximately 3-4 years
Implementation Period:	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.

Project Development

SCOPING:

- DATE:
  - May 13, 2022, through June 13, 2022
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: http://dnrc.mt.gov/public-interest/public-notices
  - Adjacent landowners,
  - Statewide scoping list,
  - Public Notice published in the Western News May 13, 20, 27, June 3 and 10, 2022.
- AGENCIES SCOPED:
  - Montana Fish, Wildlife and Parks,
  - US Forest Service
  - All Montana Tribal Organizations
  - Lincoln County
- COMMENTS RECEIVED:
  - How many: 1 letter in support
  - Concerns: No concerns were received from the public.
  - Results: The letter of support received from Weyerhaeuser asked DNRC to consider the importance of the timber sale to their employees and respective communities. This was incorporated into the project planning and design.

DNRC specialists were consulted, including: Victoria Forristal (Biologist), Tony Nelson (Hydrologist / soils scientist), Patrick Rennie (Archeologist), and Emilia Grzesic (Forest Management Planner) Tim Spoelma (Silviculturist).

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 where a proposed, new, permanent road crosses a class one stream.

ALTERNATIVES CONSIDERED:

No-Action Alternative: Under this alternative, no timber would be harvested and therefore no revenue would be generated from the project area for the Public Buildings Trust at this time. No road construction or road maintenance would occur at this time as well. Salvage logging, firewood gathering, recreational use, fire suppression, noxious-weed control, may still occur. Natural events, such as forest succession, tree mortality due to insects and diseases, windthrow, down fuel accumulation, in-growth of ladder fuels, and wildfires, would continue to occur. The threat of high intensity wildfire spread to adjacent land ownerships would not be reduced.

Action Alternative : A commercial timber harvest would take place to remove approximately 1.6 Million board feet of timber. Timber would be harvested using ground-based methods on ≈151 acres. Shelterwood harvest treatments would take place across ≈ 151 acres to promote forest health and increase growth rates of future stands. Commercial timber harvest would reduce the potential for high intensity wildland fire to adjacent landowners. Road maintenance and Best Management Practices (BMP) improvements would be performed on approximately 1.6 miles, road reconstruction would be performed on approximately 0.6 miles, and 0.8 miles of new, permanent road would be constructed. Approximately 0.6 miles of currently abandoned road would be reconstructed and abandoned following use. Excessive slash would be reduced mechanically, and where feasible, through controlled burning. Harvested stands would be re-forested both naturally, and artificially if needed, to achieve desired stocking and species composition.

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	40-99	Ponderosa Pine	Shelterwood Harvest	121
2	Moderately warm and dry (westside)	Low-to-mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	30
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	

Fire Hazard/Fuels: Stands to be treated consist of densely to well stocked, mature overstory trees (majority are shade tolerant). Additionally, understory vegetation varies from little regeneration to patches of shade tolerant regeneration. A closed overstory canopy limits regeneration and increases to potential for a stand replacing wildfire. These stands are adjacent to United States Forest Service land, but private, rural land with structures exist within approximately 0.5 to 1 mile both to the north and to the southwest.

Insects and Diseases: Douglas fir Beetle (Dendroconus pseudotsuga) is active in mature to over-mature Douglas-fir trees. Indian Paint Fungus (Echindomium tinctorium) is evident in the Grand Fir. Pini (Phellinus pini) is likely present, but not common in certain, random, isolated Western larch trees. Western Larch Dwarf Mistltoe (Arceuthobium laricis) is found in Western larch trees, randomly scattered throughout the stand, but most prevalent where the overstory stands are dense. Mountian pine Beelte (Dendroconus ponderosae Hopkins) is occasionally observed in random, mature, to over-mature Ponderosa pine trees. The two largest threats to this stand at present time would be the Douglas-fir beetle and Western Larch Dwarf Mistletoe by reducing the value stands vigor and value if not treated.

Sensitive/Rare Plants: No threatened or endangered plant species or plant species of concern have been identified within the project area.

Noxious Weeds: A few isolated Spotted knapweed, and St. Johns wort plants can occasionally be found in the few openings that exist. Occurrence of noxious weeds in general is low 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			N	
Age Class	X				X				X					
Old Growth	X				X				X					
Fire/Fuels			X				X			X			N	
Insects/Disease			X				X			X			N	
Rare Plants	X				X				X					
Noxious Weeds		X				X				X			Y	6
Action														
Current Cover/DFCs		X				X			X				Y	1
Age Class			X			X				X			Y	2
Old Growth	X				X				X					
Fire/Fuels		X			X				X				Y	4
Insects/Disease		X				X				X			Y	3
Rare Plants	X				X				X					
Noxious Weeds		X				X				X			Y	5

Comments: A total of 151 acres of proposed, even aged, Shelterwood harvest treatment would retain approximately 27 overstory trees per acre at approximately 40 Foot Spacing.
Those trees selected for retention would be healthy, dominant and codominant trees with good crown form and vigor. They would be left in the following order of species preference: Western White pine, Ponderosa Pine, Western Larch, and Douglas-Fir. Pockets of existing, healthy, advanced regeneration would be retained. Two snags per acre and two snag recruitment trees per acre would be left within harvest units. Harvest methods would be tractor-based operations. Soil scarification of up to 30% would occur from harvest equipment in areas where tractor activity occurs. In areas where planting or competition from grass causes seedling mortality, chemical herbicide may be used to promote tree growth over other vegetation.
Natural regeneration from seed trees would be anticipated. If necessary, 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.
The slash hazard would be managed through whole tree skidding to landing piles. If necessary, excess in-woods slash may be machine piled. Approximately 4-9 tons per acre of coarse woody debris would be retained for nutrient recycling. All slash burning would be conducted under controlled conditions.

1. Cover types would move towards the desired future condition through proposed harvest, and planned re-forestation.
2. In this low to mixed severity fire regime, the overstory density would be significantly reduced. Openings would be regenerated to desired stocking levels naturally, and hand

planted if necessary. Over-all this would lead to split in age classes, distributing it to both the remaining overstory and regenerated understory.

3. Insect and disease threats would be considerably reduced through proposed harvest, hazard reduction, and re-forestation.
4. The threat of catastrophic, stand replacement wildfire would be significantly reduced through proposed harvest, and hazard reduction.
5. Noxious weeds would be managed through contract mitigations, and through ongoing, cooperative efforts.
6. Noxious weeds would be managed through ongoing, cooperative efforts.

- *Vegetation Mitigations:*

- Largest diameter snags would be protected to assure retention of 2 snags, and 2 snag recruitment trees per acre in all units.
- Western White pine, Ponderosa pine, Western larch and Douglas-fir would be favored leave trees in all canopy levels.
- To deter further establishment of noxious weeds along roads, grass seed and fertilizer would be applied to areas with soil exposed during road construction and maintenance activities.
- To minimize noxious weed spread from roads, "off road" logging equipment would be inspected and required to be free of weed parts prior to moving onto the site.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The proposed project area has approximately 0.5 miles of low to moderate standard existing road. Timber management has occurred in the proposed project area since the 1920s, and the last timber sale in the project area was completed in 1993. 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 in places. 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 Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Soil Productivity	X				X				X					
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					
Soil Productivity		X				X				X			Y	S-4

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. Risk of erosion would be mitigated by implementing all applicable BMPs to harvesting activities.

S-3: Based on research by Graham, et. al. (1994), habitat types found in the project area should have 4-9 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: 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 **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. Landtypes 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 4-9 tons of woody material 3-inches in diameter or greater on the ground for nutrient cycling

WATER QUALITY AND QUANTITY:

One unnamed tributariy to Cripple Horse Creek flows through the eastern portion of the proposed project area. This stream is class 1, flowing more than 6 months and contributing flow to Cripple Horse Creek. No fish were observed in the reaches in the project area. Several ephemeral draws were found in the project area that do not have a scoured channel or definable bank. Overland flow may occur in broad ephemeral draws during extreme runoff events, but no evidence of this was identified.

Water Quality and Quantity Existing Conditions: Past management activities have had no identifiable impacts to runoff patterns or stream channel stability in proposed project area streams and draws.

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: A new 42" stream crossing culvert would be installed on the perennial stream that flows through the eastern portion of the proposed project area. 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.

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 would leave a

low risk of water quantity increases causing erosion in stream beds or banks.

Water Quality & Quantity Mitigations:

- Avoid use of ground-based equipment in the bottoms of draws to reduce risk of scour, compaction or routing of surface runoff in draws
- Implement all applicable BMPs and SMZ Law rules to ensure protection of project area streams

FISHERIES:

Fisheries Existing Conditions: Westslope Cutthroat, Largescale Sucker, Longnose Dace, Rainbow Trout and eastern brook trout are known to populate Cripple Horse Creek downstream from the proposed project area according to the Montana Department of Fish, Wildlife and Parks' FishMT website. No data were found regarding any fish presence in the unnamed tributary to Cripple Horse Creek that flows through the proposed project area. No fish were observed during field reconnaissance in 2022 within the proposed project area. All streamside vegetation on the class 1 stream in the proposed project area is functioning and intact.

No areas of severe bank erosion or channel down-cutting were identified during field reconnaissance. No 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 any downstream waters.

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			Y	F-1
Flow Regimes	X				X				X					
Woody Debris	X				X				X					
Stream Shading	X				X				X					
Stream Temperature	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		
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 91-foot riparian management zone to ensure woody debris, stream shading and stream temperature values are maintained

WILDLIFE:

Wildlife Existing Conditions: The Project Area consists of a single DNRC-managed parcel totaling 200 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 160 acres of mature forest stands (trees ≥9" dbh with ≥40% canopy closure). Approximately 40 acres of the Project Area consists of well-stocked regenerating, submerchantable timber with a relatively closed canopy. There is no old-growth forest in the Project Area using Green et al. (1992) standards. There are no open roads within the project area however, open roads approach the Project Area boundary in several locations. There are approximately 0.5 miles of existing road within the parcel that are restricted from public motorized use. Public non-motorized use is likely low in this parcel except during the big game hunting season when it likely elevates. The Project Area is surrounded by USDA Forest Service (hereafter USFS) lands where recent and ongoing forest management projects are taking place (East Reservoir Project, USDA 2014). Changes to wildlife habitat due to ongoing and planned USFS forest management were taken into account within this analysis. Cumulative effects analysis areas (CEAA) encompass lands near the Project Area and include the 5,330-acre Small CEAA for animals with smaller home ranges like pileated woodpeckers, a 22,038-acre Medium CEAA for fishers, and a 45,698-acre Large CEAA for animals that travel across larger areas such as big game. 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. In the short-term, forest insects and disease will likely continue to kill some mature trees. An increase in stand-replacement wildfire risk would be anticipated. In the long-term, habitat suitability for mature forest-associated species would remain similar or increase compared to current conditions.

Action Alternative (see Wildlife table below):

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Threatened and Endangered Species														
Grizzly bear *(Ursus arctos)* Habitat: Recovery areas, security from human activity	X				X				X					WI-1
Lynx (*Felis lynx*) Habitat: SF hab.types, dense sapling, old forest, deep snow zone	X				X				X					WI-2
Yellow-billed cuckoo (*Coccyzus americanus*) Habitat: open cottonwood riparian forest with dense brush understories (Lake and Flathead counties)	X				X				X					WI-2
Sensitive Species														
Bald eagle *(Haliaeetus leucocephalus)* Habitat: Late-successional forest within 1 mile of open water	X				X				X					WI-3
Black-backed woodpecker *(Picoides arcticus)* Habitat: Mature to old burned or beetle-infested forest	X				X				X					WI-2
Common loon *(Gavia immer)* Habitat: Cold mountain lakes, nest in emergent vegetation	X				X				X					WI-2

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Fisher *(Martes pennanti)* Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian			X				X			X			Y	WI-4
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest		X				X				X			Y	WI-5
Peregrine falcon *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands	X				X				X					WI-2
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest				X				X		X			Y	WI-6
Fringed myotis (*Myotis thysanodes*) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines	X				X				X					WI-2
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-7
Townsend's big-eared bat *(Plecotus townsendii)*	X				X				X					WI-2

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														
Wolverine (*Gulo gulo*) Habitat: high elevation areas that retain high snow levels in late spring	X				X				X					WI-2
Big Game Species														
Elk			X				X			X			Y	WI-8
Whitetail				X				X		X			Y	WI-8
Mule Deer			X				X			X			Y	WI-8
Moose			X				X			X			Y	WI-8
Other														
Mature Forest				X				X		X			N	WI-9
Northern Goshawk			X				X				X		Y	WI-10

Comments:

WI-1. Grizzly Bear – The Project Area is not within a recovery zone and is over 4.5 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. 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-3. Bald Eagle – The Project Area falls within the territories of the Yarnell Island and Barron Creek bald eagle pairs. The proposed harvest is located approximately 2 miles from the nearest 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-4. Fisher - Approximately 151 acres of suitable fisher habitat would be affected by the proposed activities (93.5% of fisher habitat available in the Project Area; 1.9% of habitat in the Medium CEAA). All 151 acres would be treated with a shelterwood harvest prescription and would not be suitable fisher habitat post-harvest due to low amounts of mature conifer cover. 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*). Connectivity in the Project Area would decrease following logging however, the remaining 9 acres (4.5% of the Project Area) of suitable fisher habitat in the Project Area would continue to provide connectivity through the parcel and to suitable habitat on adjacent USFS lands. Approximately 0.8 miles of new permanent 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 roads would be restricted by gates or berms. Suitable fisher habitat would remain in 35.6% (7,844 acres) of the Medium CEAA. Should any fishers be present within the Medium CEAA, habitat alteration and potential disturbance would be additive to any activities occurring or planned on surrounding lands, including recent USFS forest management projects on adjacent lands. However, the likelihood of fishers using the Project Area or CEAA is low given the lack of fisher observations in the area within the last 30 years (Krohner et al. 2022, MNHP 2022).

WI-5. Flammulated Owl – The proposed timber harvest would affect approximately 151 acres (75.6% of habitat in the Project Area, 9.6% of habitat in the Small CEAA) of preferred flammulated owl cover types. Currently, all 151 acres are too densely forested to be considered suitable for flammulated owl use. 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 USFS 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-6. Pileated Woodpecker – The proposed activities would affect 151 acres of suitable pileated woodpecker habitat (93.5% of habitat available in the Project Area). These acres would be treated with a shelterwood prescription that would reduce the mature canopy cover to 20%-30% making these stands unsuitable for breeding pileated woodpecker use post-harvest. Proposed harvesting would retain approximately 25 to 30 mature trees an acre; some occasional use by foraging woodpeckers is likely but nesting would not be 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, 4 to 9 tons/per acre of downed wood would be retained, with an emphasis on logs >15" diameter. The habitat alterations to the proposed project would be additive to other forest management activities in the Small CEAA including recent harvests on USFS land (East Reservoir Project, USDA 2014) and DNRC land (DNRC, 2018). An unharvested riparian corridor in the Project Area would maintain some suitable habitat connectivity through the Project Area and Small CEAA. Post-harvest, approximately 48% of Small CEAA will remain relatively well-connected suitable habitat and continued use of the Small CEAA by pileated woodpeckers would be anticipated.

WI-7. Hoary bat – The proposed activities would affect approximately 151 acres of potential hoary bat habitat. Because hoary bats typically roost in tree foliage, 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. Hoary bats are considered common and widespread throughout Montana (Bachen et al 2020).

WI-78. Big Game – The proposed activities would reduce thermal cover and snow intercept on potential white-tailed deer, mule deer, moose, and elk winter range (*DFWP 2008*). Timber harvesting would affect 151 acres of thermal cover (93.5% of thermal cover available in the Project Area). All these acres would be treated with a harvest prescription that would reduce the mature canopy cover such that there would be little capacity of these stands to provide thermal cover during winter conditions. Thermal cover/snow intercept would remain on approximately 9 acres in the Project Area. Hiding cover within the Project Area would be reduced by 151 acres (75.7% 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 49 acres within the Project Area will retain tree density sufficient to provide hiding cover. Approximately 0.8 miles of new permanent road would be constructed, which would decrease habitat security for big game species. However, motorized use by the public would be restricted on all roads within the Project Area. 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 (East Reservoir Project, USDA 2014) and DNRC lands (DNRC, 2018). Hiding cover would remain abundant (89.0% of the Large CEAA) within the large CEAA, as would high-quality thermal cover/snow intercept (64.0% of the Large CEAA). Measurable big game population changes at the scale of the Large CEAA would not be expected because of the Action Alternative.

WI-9. Mature Forest – The proposed action would harvest approximately 151 acres of mature forest (93.8% of mature forest within the Project Area). Shelterwood harvest on all 151 acres would reduce live tree densities to approximately 27 trees per acre and reduce overstory canopy cover from ≥40% to 20-30%, 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 recently harvested USFS parcels that border the Project Area (East Reservoir Project, 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. The remaining 9 acres (4.5% of the Project Area) of mature forest would provide connectivity through the Project Area and connect mature forest stands within the Small CEAA. Within the Small CEAA, proposed harvesting would remove approximately 6.2% of existing mature forest and these changes would be additive to forest management activities occurring at a broader spatial scale. Mature forest abundance would remain relatively high (43.3%) and well connected throughout the Small CEAA.

WI-10. Northern Goshawk – One adult and two juvenile northern goshawks were observed in the Project Area in the summer of 2022. Two adult goshawks also displayed territorial behavior earlier in the 2022 nesting season. If an active nest site is located during future breeding seasons, 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.

Motorized activities would be restricted from April 1-August 15 within ¼ mile of the nest to minimize disturbance to nesting goshawks. 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. However, abandonment of the territory is unlikely as alternate nest sites are likely available in adjacent mature forest. 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 commercial harvest units, retain patches of advanced regeneration trees where practicable and compatible with silvicultural goals.
- 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 4-9 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 in the eastern portion of the Project Area to produce more natural-looking disturbance patterns.
- If an active goshawk nest site is identified, implement harvest activity (including log hauling) timing restrictions from April 1-August 15 within ¼ mile of the nest site, and retain all trees within a 100-foot radius of the nest tree.

Literature:

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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	1, 2
Dust		X			X				X				Y	3

Comments:

1. The project area is located in Montana Airshed 1. Slash piles consisting of tree limbs, tops and other vegetative debris would be created throughout the project area during harvesting. These slash piles would ultimately be burned after harvesting operations have been completed

2. Burning that may occur on adjacent properties in combination with the proposed action could potentially increase cumulative impacts to the local airshed. Thus, cumulative impacts to air quality due to slash pile burning associated with the proposed action would also be expected to be minimal.

3. Dust may be generated by log hauling activities during dry conditions. However, because dust would be localized to skid trails and haul roads and operating seasons would be short in duration, effects to air quality as a result of dust generated during harvest activities are expected to be low.

Air Quality Mitigations:

- Burning within the project area would be short in duration and would be conducted when conditions favor good ventilation and smoke dispersion. Actions would adhere to the Montana/Idaho State Airshed Group regulations and Montana Department of Environmental Quality.

- The DNRC, would burn only on approved days. DNRC would also follow regulation Lincoln County has for Air Quality. Thus, direct, secondary, and cumulative effects to air quality due to slash pile burning associated with the proposed action would be minimal.

- Dust abatement may be required on portions of roads effecting subdivision 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	1
Aesthetics		X				X				X			Y	2
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					

Comments:

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 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 the topographic setting and geology suggest a low to moderate likelihood of the presence of cultural or paleontologic 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.

1. 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.
2. Proposed harvest units and roads would be visible through a screen of both already harvested and un-harvested forest from the following USFS roads: Boundary Mountain Road (4904), Cripple Canyon Road (4925) and Road 6202. These are graveled, roads open to the public year around. The project area is used by hunters, and hikers. Active forest management is prevalent in this area, and is evident on many viewsheds surrounding the area. Within the project area, harvested stands would look significantly more open than pre-harvest stands with approximately 27 overstory trees remaining per acre after harvest.

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					
Cultural Uniqueness and Diversity	X				X				X					
Action														
Health and Human Safety		X			X				X				Y	1
Industrial, Commercial and Agricultural Activities and Production		X			X				X				Y	2
Quantity and Distribution of Employment		X			X				X				Y	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					

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					

Comments:

1. No unusual safety considerations are associated with the proposed project. Because of the relatively small size of the proposed project, and mitigation measures that would be taken, health and safety risks posed by the project would be minimal.
2. A consistent flow of timber contributes towards meeting the current and future demand of these construction materials.
3. Employment in the logging industry is common in the area and this project would in a small part contribute to local employment.

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 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 Public Buildings Trust. The estimated return to the trust for the proposed harvest is $307,770.00 based on an estimated harvest of 1,609 Thousand board feet (10,259 tons) and an overall stumpage value of $30.00 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?
No

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?
No

Environmental Assessment Checklist Prepared By:

Name: Dave Marsh
Title: Forest Management Supervisor
Date: January 30, 2023

Finding

Alternative Selected

Upon review of the Checklist EA and appendices, I find that the action alternative as proposed meets the intent of the project objectives as stated on page 1, Type and Purpose of Action. It complies with all pertinent environmental laws, DNRC State Forest Land Management Plan, and a consensus of professional opinion on limits of acceptable environmental impact. The No Action Alternative does not meet the project objectives. For these reasons I have selected the Action Alternative for implementation on this project.

Significance of Potential Impacts

After a thorough review of the scoping documents, Department policies, standards, guidelines, and the State Forest Land Management Plan (SFLMP), I find all the identified resource management concerns have been fully addressed in this Checklist EA and its attachments. The action alternative provides for income to the Public Buildings trust and promotes the development of a healthy, biologically diverse, and productive forest. It also provides the opportunity to improve access and road maintenance within the project area. I find there will be no significant impacts to the human environment as a result of implementing the action alternative. Specific project design features and various resource management specialist recommendations have been implemented to ensure that this project will fall within the limits of acceptable environmental change and result in no significant effects.

Need for Further Environmental Analysis

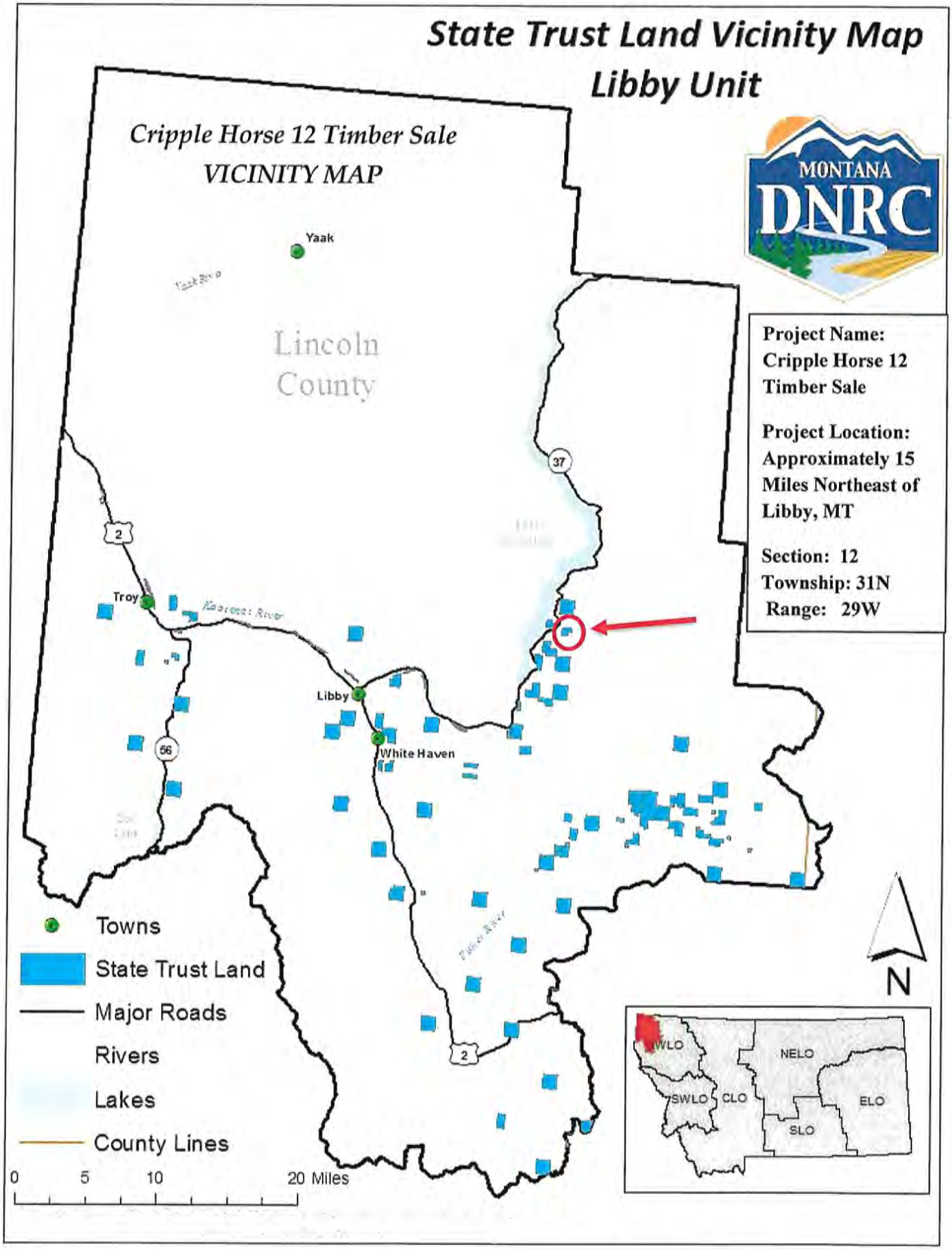
☐	EIS	☐	More Detailed EA	☒	No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Doug Turman
Title: Libby Unit Manger
Date: 2/6/23
Signature: /s/

Attachment A - Maps

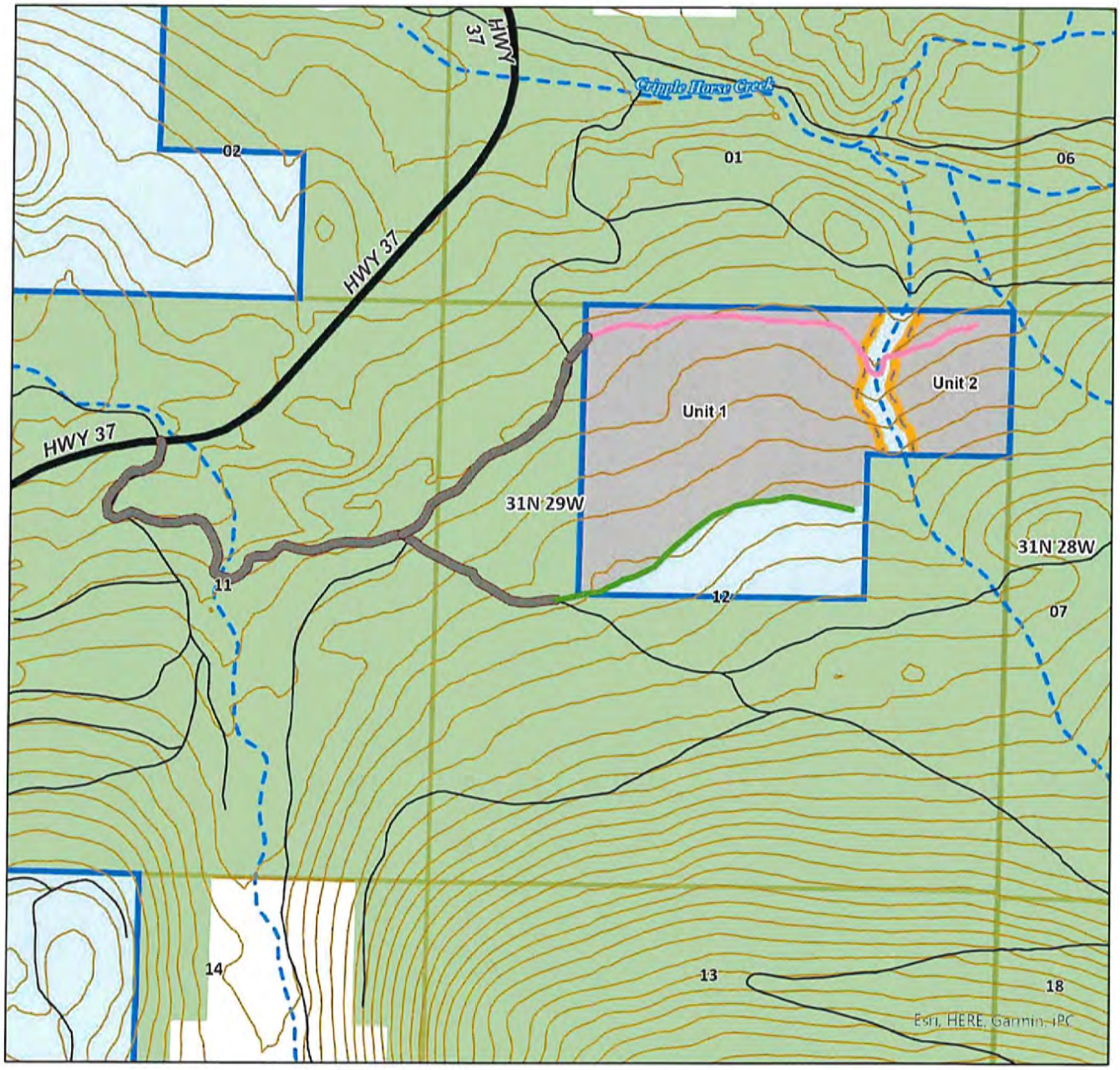
A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units

Attachment A

Cripple Horse 12 Timber Sale Environmental Assessment



Proposed Temporary, Re-construction

Proposed Haul Roads

Proposed New Road Construction

Other Existing Roads

Streamside Management Zone

Streams

State Trust Land

Proposed Harvest Unit

0.7 Miles

N