Environmental Assessment Checklist

Project Name: Lupfer Loop Timber Sale Project
Proposed Implementation Date: September 2024
Proponent: Stillwater Unit, Northwest Land Office, Montana DNRC
County: Flathead

Type and Purpose of Action

Description of Proposed Action:

The Stillwater Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Lupfer Loop Timber Sale Project. The project is located approximately 4 miles southeast of Olney, Montana in Flathead County. (refer to Attachments vicinity map **A-1** and project map **A-2**) and includes the following sections: Sections 27, 28, 33, 34, 35 of T32N R23W.

Beneficiary		Project Area Acres	Treated Acres
Common Schools			
Public Buildings	**32N 23W S27 & 35**	**1,085.6**	**27.5**
MSU 2nd Grant	**32N R23W S28**	**2.6**	
MSU Morrill	**32N R23W S28**	**353.1**	**26.8**
Eastern College-MSU/Western College-U of M	**32N R23W S33**	**1.7**	
Montana Tech	**32N R23W S34**	**450.2**	**68.4**
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Capture the economic value of dead and dying trees and promote the regeneration of healthier, more resilient stands.
- Remove dead and dying trees to limit unauthorized timber theft/firewood cutting and off-road vehicle use that is prevalent in the area.

- Limit unauthorized use by installing a gate on the Lupfer Loop Unit 1 & 2 Access Road
- Contribute to DNRC's sustained yield by generating revenue for the Public Buildings (PB), Montana Tech, (SM), and MSU Morrill (ACI) Trusts.
- Move stands towards their Desired Future Condition (DFC).

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	0
Seed Tree	123
Shelterwood	0
Selection	0
Old Growth Maintenance/Restoration	0
Commercial Thinning	0
Salvage	0
Total Treatment Acres	
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning / Slashing	123
Site preparation/scarification	123
Planting	123
Proposed Road Activities	# Miles
New permanent road construction	0
New temporary road construction	0
Road maintenance	4.4
Road reconstruction	0
Road abandoned	0
Road reclaimed	0

Duration of Activities:	1 Year
Implementation Period:	September 2024-Sept 2025

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:
  - December 13, 2023.
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: https://dnrc.mt.gov/News/scoping-notices
  - In December and January of 2023-2024 DNRC solicited public participation for 29 days on the Olney North Forest Management Project. The Initial Proposal with maps was sent to agencies, individuals, licensees, and other organizations that have expressed interest in DNRC's management activities.
- AGENCIES SCOPED:
  - MT Fish, Wildlife, and Parks
  - USFS Flathead National Forest
  - All Montana Tribal Organizations
- COMMENTS RECEIVED:
  - How many: Three public comments were received by email.
  - Concerns:
    - One comment was from the Northern Cheyenne Tribe, which asked DNRC to keep their Tribal Historic Preservation Officer (THPO) informed as the project progresses.
    - Lincoln Electric responded via email with a letter asking for DNRC to consider ways of expanding their Right of Way (ROW) and removal of hazard trees (trees outside of the ROW that could impact their power lines if they fall.).
    - F.H. Stoltze Land & Lumber Company responded via email with a letter in support of the project, with additional emphasis on economics, forest improvement, and Streamside Management Zone (SMZ) management.
  - Results:
    - Project leader will keep Northern Cheyenne THPO informed via email as the project progresses.
    - Project Leader considered comments but no units were adjacent to power lines.
    - The project will follow all SMZ law and adhere to Best Management Practices (BMPs) to protect water quality.

Internal and external issues and concerns were incorporated into project planning and design and will be implemented in associated contracts.

Interdisciplinary Team (ID):

- Tony Nelson (*Hydrologist, Soils*)
- Victoria Forristal (*Wildlife Biologist*)
- Mike Anderson (*Fisheries Biologist*)
- Dave Ring (*Special Uses, Decision Maker)*
- Patrick Rennie (*Archeologist*)
- Les Thomas (*Forester, Project Lead*)

Project Development:

Stand Prioritization

The following types of forest conditions led foresters to consider treatments to improve stand health and prevent unauthorized use. These include:

- Stands with dead and dying trees from insects/disease/health issues (bark beetles/root rots/weather damage).
- Areas with dead and dying trees where unauthorized firewood cutting, timber theft, and off-road vehicle use have become prevalent.
- Stands that are currently not in DFC and/or stands that are in DFC but are moving away from them due to increasing presence of shade-tolerant species in the understory.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **United States Fish & Wildlife Service-** DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands HCP and the associated Incidental Take Permit that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. This project complies with the HCP. The HCP can be found at https://dnrc.mt.gov/TrustLand/about/planning-and-reports.

- **Montana Department of Environmental Quality (DEQ)-** DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.

- **Montana/Idaho Airshed Group-** The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2010). As a member, DNRC must submit a list of planned burns to the Airshed Group's Smoke Monitoring Unit describing the type of burn to be conducted, the size of the burn in acres, the estimated fuel loading in tons/acre, and the location and elevation of each burn site. The Smoke Monitoring Unit provides timely restriction messages by airshed. DNRC is required to abide by

those restrictions and burn only when granted approval by the Smoke Monitoring Unit when forecasted conditions are conducive to good smoke dispersion.

ALTERNATIVES CONSIDERED:

- **No-Action Alternative**:

Under this alternative, no timber would be harvested. Therefore, no revenue would be generated from the project area for the Montana Tech (SM), Public Buildings (PB), and MSU Morrill (ACI) Trusts at this time. Salvage logging, firewood gathering, recreational use, fire suppression, noxious weed control, additional requests for permits and easements, and ongoing management projects may still occur. Natural events, such as plant succession, tree mortality due to insects and diseases, windthrow, down fuel accumulation, in-growth of ladder fuels, and wildfires would continue to occur.

Action Alternative

Commercial timber harvest would remove 0.7-1.0 MMBF of timber using ground-based methods on 123 acres. Specific harvest unit data provided in *Attachment B* -Lupfer Loop Timber Sale Project Prescription Table. Using this table with *Attachment A-1* Pg. 1 of 4 – State Trust Lands Vicinity Map, and *Attachment A-2* pg. 2 of 4 – Lupfer Loop Timber Sale Project Map will provide additional detail for this project.

Silvicultural prescriptions applied under this alternative are as follows:

- Dead and dying Douglas-fir would be targeted for treatment, and new stands of healthy desirable tree species would be regenerated on 123 acres through the implementation of seed tree treatments.

Post-harvest treatments applied under this alternative to ensure successful regeneration of units are as follows:

- Mechanical piling and scarification would occur on up to 123 acres to provide sites for natural and planted trees to regenerate.
- Slashing or precommercial thinning and piling would occur on up to 123 acres to reduce encroachment by shade-tolerant tree species and promote vigor of retained seral species like Douglas-fir and western larch, thereby keeping stands in or moving them towards their DFC.
- Seedlings would be planted on up to 123 acres to ensure areas that lack natural regeneration are fully stocked and move stands towards their DFC.
- Road maintenance and BMP improvements would be performed on approximately 4.4 miles of existing roads. Replacement of one ephemeral draw crossing culvert would occur. There would be no new temporary or permanent road built for this project.

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:

Multiple entries into the project area for forest management have occurred since the early 1900s. Throughout the project area remnants of past management are present and have influenced current stand compositions.

The existing overstory species mix in proposed harvest units is predominantly Douglas-fir (*Pseudotsuga menziessii*) and western larch (*Larix occidentalis*), with mixed levels of lodgepole pine (*Pinus contorta*), grand fir (*Abies grandis*), subalpine fir (*Abies lasciocarpa*), and Engelman spruce (*Picea engelmannii*) scattered throughout. The south and west aspects are generally free of understory competition, although grasses and brush are present as ground cover. The north, east, and flat aspects have densely stocked pockets of advanced subalpine fir, grand fir, and Engelmann spruce regeneration. Sawtimber in Units 1 and 4 are poorly stocked (10-39% cover), but Units 2 and 3 are medium-to-well stocked (40-69%, 70%+) in the saw-timber component.

Potential harvest units have moderate to severe mortality in mature Douglas-fir due to stress from weather events, insects, and disease.

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Seed Tree	28
2	Cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western Larch/Douglas Fir	Seed Tree	68
3	Cool and moist (westside)	Mixed	Western Larch/Douglas Fir	150-199	Western White Pine	Seed Tree	6

4	Warm and moist (westside)	Mixed	Douglas Fir	100-149	Western White Pine	Seed Tree	21

Current Cover-Type/DFCs: Silvicultural treatments in proposed units would focus on maintaining or increasing the presence and growth of seral species (Douglas-fir and western larch) in accordance with desired future conditions. This would be obtained through regeneration harvest prescriptions and post-harvest forest improvement projects including mechanical scarification, slashing, and planting.

Old Growth: Utilizing Stand Level Inventory (SLI) data, there are no old growth stands within the project area. No old growth removal will occur with this project. Cumulatively there are 14,422.2 acres of old-growth on the Stillwater Unit. Following this and other planned harvest activities on the Unit, there would be an estimated 14,402.2 acres of old-growth, representing 11.19% of the area under management by the Stillwater Unit.

Fire Hazard/Fuels: The Lupfer Loop Timber Sale Project Area has mixed levels of fuel loading. Stands located on southern/western aspects are generally more open timber fuel types with timber litter and sporadic understory regeneration and ladder fuels. Eastern, flat, and northern aspects see an increase in presence of fuel loading, ladder fuels, timber litter, and fuel continuity.

Table 4: *Fire Groups in Proposed Harvest Units*

Fire Group	Acres within Proposed Harvest Units	Percent of Proposed Harvest Units	Habitat Type Group	Severity
11	21	17%	Warm and moist (westside)	Infrequent/ Mixed
9	102	83%	Cool and moist (westside)	Infrequent/ Mixed

Insects and Diseases: Bark beetles, wood borers, stem rots and root rots are present throughout the potential harvest area in varying levels of severity. Treatment of the stands will prevent further loss of value and improve overall forest health by slowing the spread of insects and disease. Vegetation mitigation V-3 discusses the insects and diseases further.

Sensitive/Rare Plants: Through utilization of Montana's Natural Heritage Program Database, three species of concern were identified to exist within or adjacent to the project area; Beck water-marigold (*Bidens beckii*), adder's tongue (*Ophioglossum pusillum*), and whitebark pine (*Pinus albucaulis*). Though whitebark pine was listed as a species of concern identified by the Montana Natural Heritage website as occurring within or adjacent to the project area, the elevation of the project area is too low to be a likely location for the species, and no trees or seedlings were observed during field reconnaissance in the project area.

There is little possibility of the occurrence of the aquatic or fen/wet meadow related species because only Unit 2 has wet area habitat. Although no species of concern were observed during reconnaissance, there is a remote possibility of finding the non-wetland related species. If listed rare/sensitive plants are found during this project period, then harvesting operations would be diverted from the area in which the plants are discovered. DNRC and plant specialists would review the area before resuming operations.

Noxious Weeds: The primary noxious weeds identified in the project area include oxeye daisy (*Leucanthemum vulgare*), orange and yellow hawkweed (*Hieracium aurantiacum L.* (*Asteraceae*), *Hieracium fendleri*), spotted knapweed (*Centaurea maculosa Lam.* (*Asteraceae*)), St. Johnswort (*Hepericum scouleri ssp. Scouleri*), and Canada thistle (*Cirsium arvense*). Noxious weeds identified within the project aera will be targeted and sprayed with herbicide prior to mobilization of equipment. The project area will be surveyed for the presence of noxious weeds post-harvest. Follow up herbicide applications will be administered if identified.

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

Comments:

V-1: VEGETATIVE COMMUNITY - The Action Alternative would harvest 0.7 – 1.0 Mmbf over 123 acres of sawtimber (see *Attachment B – Prescription Table*). The silvicultural prescriptions implemented within these stands would be to maintain or transition current cover types to the desired future conditions (*ARM 36.11.405*) by:

- Reducing shade tolerant species in all canopy layers
- Moving cover type in one stand from western larch/Douglas-fir (wl/Df) towards western white pine cover type (wwp).
- Retaining trees of preferred species (wl/Df) in all size classes and age classes.
- Mechanical scarification would occur on up to 123 acres to create seedbeds receptive to natural or manual regeneration.
- Planting of seedlings may occur on up to 123 acres.

Approximately 123 acres would be converted to the 0 – 39-year age class through implementation of seed tree treatments. The harvested stands would be dominated by vigorous sapling and seedlings. Areas of over-stocked regeneration would be slashed, and any areas without adequate stocking would be mechanically scarified. Areas that do not regenerate naturally would be planted with a mix of western larch, Douglas-fir, and western white pine.

V-2: FIRE/FUELS - Though the risk of wildfire would still exist post-harvest, silvicultural treatments within proposed units would assist in moderating fire intensity should a wildfire occur. Treatments applied would reduce the vertical and horizontal continuity of fuel loadings. These treatments would allow fire suppression efforts to be more successful by moderating fire rate of spread and fire intensity.

V-3: INSECT/DISEASES - Trees that have become weakened by insects, disease, and/or weather and have become susceptible to bark beetle attack would be removed by forest management actions of the project. Insects that have been observed within harvest units include Douglas-fir beetle (*Dendrctonus pseudotsugae*), flatheaded wood borers (*Caleoptera; family Buprestidae*), and roundheaded wood borers (*Caleoptera; family Cerabydicae*). Diseases noted include root rot (*Armillaria ostoyae*), stem rots including Pini in larch (*Phellinus pini*) and larch mistletoe (*Archeuthobium laricis*).

V-4: NOXIOUS WEEDS - Mitigation measures for noxious weed control include washing equipment before entering the site, sowing grass seed on roads after road maintenance and harvesting (*ARM 36. 11. 445*) and applying herbicide on spots of weed outbreaks along roadways including areas behind road closures. This would minimize the spread and continued prevalence of noxious weeds in the project area.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: Timber harvesting in the proposed project area has been ongoing since the 1920s. Based on pace transects and field reconnaissance, less than 15% of soils are impacted from past entries where ground-based yarding was done.

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**	**S-1**
Erosion		**X**				**X**				**X**			**Y**	**S-2**
Nutrient Cycling	**X**				**X**				**X**					
Slope Stability	**X**				**X**				**X**					
Soil Productivity		**X**				**X**				**X**			**Y**	**S-3**

Comments:

S-1: Based on DNRC soil monitoring on similar soils with a similar harvest intensity, approximately 16.3% of 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 yarding and skidding operations. Risk of erosion would be mitigated by implementing all applicable BMPs to harvesting activities.

S-3: Soil productivity would be impacted by ground-based machinery used to yard timber. As stated in comment S-1, levels of ground disturbance are expected to be less than 16.3% 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:

- Limit equipment operations to periods when soils are relatively dry, (less than 20 percent), frozen, or snow-covered to minimize soil compaction and rutting and maintain drainage features. Check soil moisture conditions prior to equipment start-up.
- The logger and sale administrator would agree to a skidding plan prior to equipment operations. Skid-trail planning would identify which main trails to use and how many additional trails are needed. Trails that do not comply with BMPs (i.e., trails in draw bottoms) would not be used unless impacts can be adequately mitigated. Regardless of use, these trails may be closed with additional drainage installed, where needed, or grass-seeded to stabilize the site and control erosion.
- Tractor skidding should be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive displacement or erosion.
- Maintain skid trails at 20 percent or less of the harvest unit acreage. Provide for drainage on skid trails and roads concurrently with operations.
- Leave 7-24 tons of coarse woody debris per acre in harvest units.
- Slash disposal: Limit the combination of disturbance and scarification to 30 to 40 percent of the harvest units. No dozer piling on slopes over 35 percent; no excavator piling on slopes over 45 percent unless the operation can be completed without causing excessive erosion. Consider lopping and scattering or jackpot burning on the steeper slopes.
- Compliance with Forestry Best Management Practices (BMP's), Streamside Management Zone (SMZ) laws, Montana DNRC Forested Trust Lands HCP and applicable DNRC Forest Management Administrative Rules.

WATER QUALITY AND QUANTITY:

Potential cumulative effects to water quality and quantity were deemed low due to the limited area of proposed harvest activity and no proposed riparian harvesting.

Water Quality and Quantity Existing Conditions: Past activities in and around the proposed project area include timber management and home site development. These activities have led to reductions in forest canopy cover, and construction of roads and skid trails. No streams were identified during field reconnaissance. In the northeast quarter of section 34 of the proposed project area (in proposed treatment unit 2) there is a long, narrow wetland that flows water during portions of the year. This area does not have a defined channel by the definition in ARM 36.11.312(27). Much of this area meets the definition of a wetland according to ARM 36.11.426 and has numerous indicators of high water table near the surface.

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**					
Water Quantity		**X**				**X**				**X**			**Y**	**WQ-1**

Comments:

WQ-1: There is a very low risk of the proposed project affecting water quantity. Vegetation removal can impact water use and snowpack distribution in harvested areas. The proposed project would harvest timber from approximately 123 acres. In an approximately 10,432-acre watershed with wetlands and ponds to store and ameliorate changes in flow, the proposed harvest represents approximately 1% of the watershed area in harvesting. This presents a very low risk of measurable impacts to water quantity from the proposed harvesting.

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, HCP commitments, and Montana Administrative Rules for Forest Management to ensure proper protection of all soil and water resources.

FISHERIES:

Fisheries Existing Conditions: No streams were identified in the proposed project area during field reconnaissance. As a result, no fish are present within or immediately adjacent to 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					
Stream Shading	X				X				X					
Stream Temperature	X				X				X					
Connectivity	X				X				X					
Populations	X				X				X					

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.

WILDLIFE:

Wildlife Existing Conditions: The Project Area consists of 1,893 acres of DNRC-managed forest lands of which 961 of these acres are included in DNRC's Habitat Conservation Plan (USFWS and DNRC 2010). The Project Area contains 923 acres (48.8% of the Project Area) of mature forest stands (trees ≥9" dbh with ≥40% canopy closure). Approximately 222 acres (11.7%) in the Project Area consist of more open mature forest stands with canopy cover 10-39%. There is no old-growth in the Project Area (Green et. al. 1992). In the last 25 years, approximately 566 acres, or 29.9% of the Project Area, has been impacted by timber harvest. Multiple entries have occurred on 148 of these acres during the same period. Younger pole or sapling sized stands make up approximately 641 acres (33.9%) of the Project Area. Non-forested areas, including meadows, wetlands and the powerline corridor encompass approximately 106 acres (5.6%) of the Project Area. Insects & disease are reducing host-tree vigor within some forest stands. There are approximately 5.4 miles of well-traveled open road and 7.1 miles

of restricted roads in the Project Area. Unauthorized off-road vehicle use and illegal firewood cutting are prevalent in portions of the Project Area. Public, non-motorized recreational use of the Project Area is high and peaks during big game hunting season. Cumulative effects analysis areas (CEAA) include lands near the Project Area and include the 7,289-acre Small CEAA for animals with smaller home ranges like pileated woodpeckers and a 41,082-acre Large CEAA for animals that travel across larger areas such as grizzly bears and big game. Ownership in the Large CEAA consists of 75.5% DNRC, 10.1% USDA Forest Service, 5.8% industrial forest lands, and 8.6% private land. Primary land uses in the CEAAs are commercial timber harvest and outdoor recreation.

Recent and ongoing forest management projects in the CEAA include McCabe Meadows (DNRC 2022) and McStryker (DNRC 2022) timber sales. Proposed projects in the CEAA include Olney North Forest Management Project (DNRC 2024), Swift-Stryke Forest Management Project (DNRC 2023), North Lake Salvage Timber Sale (DNRC 2024) and HB-883 Precommercial Thinning Projects (DNRC 2024). Impacts associated with habitat alterations due to planned and proposed projects have not been accounted for in the quantitative portion of the following analysis. Additional information on cumulative effects analysis areas and analysis methods are available upon request. Overall, the Project Area contains of variety of habitat conditions for native wildlife species.

No-Action Alternative: None of the proposed activities would occur. Forest insects and disease will likely continue to cause reduced growth or mortality in some trees. Openings in the forest may occur where susceptible trees die. An increase in stand-replacement wildfire risk would be anticipated as down wood accumulates. In the long-term habitat suitability for mature forest-associated species would remain similar or decline compared to current conditions.

Action Alternative (see Wildlife table below):

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Threatened and Endangered Species														
Grizzly bear (Ursus arctos) Habitat: Recovery areas, security from human activity		**X**				**X**				**X**			**Y**	**WI-1**
Lynx (Felis lynx) Habitat: SF hab.types, dense sapling, old forest, deep snow zone		**X**				**X**				**X**			**Y**	**WI-2**
Yellow-billed cuckoo (Coccyzus americanus)	**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: open cottonwood riparian forest with dense brush understories (Lake and Flathead counties)														
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**				**Y**	**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 (Martes pennanti) Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian		**X**				**X**				**X**			**Y**	**WI-5**
Flammulated owl (Otus flammeolus) Habitat: Late-successional	**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		
ponderosa pine and Douglas-fir forest														
Peregrine falcon (Falco peregrinus) Habitat: Cliff features near open foraging areas and/or wetlands	**X**				**X**				**X**					**WI-3**
Pileated woodpecker (Dryocopus pileatus) Habitat: Late-successional ponderosa pine and larch-fir forest		**X**				**X**				**X**			**Y**	**WI-6**
Fringed myotis (Myotis thysanodes) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines	**X**				**X**				**X**					**WI-3**
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) Habitat: Caves, caverns, old mines	**X**				**X**				**X**					**WI-3**
Big Game Species														
Elk		**X**				**X**				**X**			**Y**	**WI-8**
Whitetail		**X**				**X**				**X**			**Y**	**WI-8**
Mule Deer	**X**				**X**				**X**					**WI-8**
Moose		**X**				**X**				**X**			**Y**	**WI-8**
Other														

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Mature Forest		**X**				**X**				**X**			**N**	**WI-9**

Comments:

WI-1 Grizzly bear – The Project Area is comprised of 915 acres in grizzly bear recovery habitat and 978 acres in non-recovery occupied habitat (USFWS 1993, Wittinger 2002) and includes a portion of the Lazy Creek grizzly bear management subunit. Grizzly bear hiding cover would be removed by the proposed seed tree harvest on approximately 121 acres (9.0% of hiding cover in the Project Area). Retaining some small patches of regenerating conifers and submerchantable trees within the harvest units would increase the amount of available hiding cover. Harvest units were designed such that no point within harvest units retaining less than 25 trees per acre would be more than 600 feet from hiding cover. Post-harvest, 1,222 acres, or 64.5% of the Project Area, would remain hiding cover. No new roads would be constructed, however motorized use of existing open and restricted roads within the Project Area would increase during project implementation. Post-harvest, existing restricted roads would remain restricted with gates or berms. Additionally, a gate would be installed that would restrict approximately 0.6 miles of currently open road, thus reducing human disturbance in the area during a portion of the non-denning season. Any grizzly bears using the Project Area could be temporarily displaced by the proposed activities and associated disturbance for up to 4 years. Spring timing restrictions would be applied from April 1 through June 15 to provide security for grizzly bears in the spring. After harvest, 28,637 acres (69.7% of the Large CEAA) of well-connected hiding cover would remain in the Large CEAA and continued use of the area by grizzly bears is anticipated. Impacts to hiding cover and increased disturbance under the Action Alternative would be additive to recent, ongoing, and proposed forest management projects in the CEAA (see existing conditions section). The greatest risks to bears within the CEAA would remain human habitations and associated attractants that bring bears into conflict with people.

WI-2. Canada Lynx – The Project Area is comprised of 1,565 acres (82.7% of Project Area) of suitable lynx habitat. The proposed seed tree harvest prescription would reduce conifer canopy cover on 120 aces (7.7% of existing habitat in Project Area) of suitable habitat such that these stands would become temporarily unsuitable lynx habitat. In total, 1,445 acres (76.3% of Project Area) in the Project Area would continue to provide suitable lynx habitat post-harvest. 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, 7 to 24 tons/acre of coarse woody debris would be retained in accordance with DNRC Forest Management Rules (ARM 36.11.414) and retention of downed logs ≥15-inch diameter would be emphasized. Lynx habitat connectivity within the Project Area would be reduced. Post-harvest, suitable lynx habitat in the Large CEAA would be reduced from 67.7% to 67.4%, and habitat would remain well connected in the Large CEAA. 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, ongoing, and proposed forest management projects in the CEAA (see existing conditions section).

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 lies within the home range of multiple nesting eagle pairs (MNHP 2023, DNRC unpublished data); however, the proposed harvest is over 1 mile from any known eagle nest site. Appreciable use of the Project Area by bald eagles during the breeding season would not be expected due to the distance from nest sites and preferred foraging areas. However, any eagles foraging in close vicinity to active harvesting operations could be temporarily displaced. Proximity of 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 – The proposed seed tree harvest would remove 7 acres of suitable fisher habitat (0.9% of suitable fisher habitat available in Project Area) and habitat connectivity would decrease slightly following logging. No new roads would be constructed, however motorized use of existing open and restricted roads within the Project Area would increase during project implementation. Post-harvest, existing restricted roads would remain restricted with gates or berms. 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 and large trees are important habitat features that provide resting and denning sites for fishers (Olson 2014). The abundance of fisher habitat in the Large CEAA would remain moderate (12,198 acres, 29.7% of Large CEAA) after the proposed harvest activities. However, the likelihood of fishers using the Project Area or Large CEAA is low given the lack of fisher observations in the area within the last 20 years (MNHP 2024, Krohner 2022). Should any fishers be present within the Large CEAA, habitat alteration and potential disturbance would be additive to recent, ongoing, and proposed forest management projects in the Large CEAA (see existing conditions section).

WI-6. Pileated Woodpecker – The proposed seed tree harvest would remove 72 acres, or 9.2%, of available suitable pileated woodpecker habitat in the Project Area. To reduce potential adverse effects on pileated woodpeckers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and all snags cut for safety reasons would be left in the harvest unit (ARM 36.11.411). Additionally, 7 to 24 tons/per acre of downed wood would be retained, with an emphasis on logs >15" diameter. The proposed harvest would reduce pileated woodpecker habitat in the Small CEAA from 21.7% to 20.8% (1,513 acres remaining). Suitable habitat in the Small CEAA would remain as poorly connected patches, however continued use of suitable habitat by pileated woodpeckers in the Small CEAA would be anticipated post-harvest. Habitat alterations due to the proposed action would be additive to recent, ongoing, and proposed forest management projects in the CEAA (see existing conditions section).

WI-7. Hoary bat – The proposed activities would affect approximately 121 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-8. Big Game – The Project Area provides winter range habitat for white-tailed deer, elk, and moose (DFWP 2008). The proposed seed tree harvest would remove 2 acres (0.2% of existing thermal cover) of thermal cover/snow intercept. Post-harvest, thermal cover/snow intercept would remain on approximately 956 acres, or 50.5%, of the Project Area. Hiding cover would be removed by the proposed seed tree harvest on 121 acres (9.0% of hiding cover in the Project Area). Retaining some small patches of regenerating conifers and submerchantable trees within the harvest units would increase the amount of available hiding cover. Post-harvest, 1,222 acres, or 64.5% of the Project Area, would remain hiding cover. No new roads would be constructed, however motorized use of existing open and restricted roads within the Project Area would increase during project implementation. The reduction in hiding cover could result in increased mortality risk to big game species due to hunting, particularly where open and restricted roads facilitate hunter access. Existing restricted roads would remain restricted with gates or berms after the proposed activities conclude. Well-connected hiding cover would remain on approximately 69.7% of the Large CEAA. Habitat alterations due to the proposed action would be additive to recent, ongoing, and proposed forest management projects in the CEAA (see existing conditions section).

WI-9. Mature Forest– The proposed seed tree harvest would remove approximately 46 acres of mature forest (5.0% of mature forest within the Project Area) with a reasonably closed canopy (≥40% canopy closure). These acres would no longer be considered suitable for species that prefer dense mature forests. However, habitat suitability for species utilizing younger stands and open forest with widely scattered mature trees would increase. Post-harvest, 877 acres (46.3% of Project Area) of mature forest in the Project Area would continue to be suitable for wildlife that prefer closed canopy mature forest, however connectivity of remaining mature forest would be reduced. The proposed harvesting would remove approximately 2.5% of existing mature forest in the Small CEAA and mature forest abundance would remain relatively low (25.0% of Small CEAA) and poorly connected. Habitat alterations due to the proposed action would be additive to recent, ongoing and proposed forest management projects in the CEAA (see existing conditions section).

Wildlife Mitigations:

- If a threatened or endangered species is encountered, consult a DNRC biologist immediately. Similarly, if undocumented nesting raptors or wolf dens are encountered within ½ mile of the Project Area, contact a DNRC biologist.
- Contractors will adhere to food storage and sanitation requirements as described in the timber sale contract. Ensure that all attractants such as food, garbage, and petroleum products are stored in a bear-resistant manner.
- Prohibit contractors and purchasers conducting contract operations from carrying firearms while on duty as per ARM 36.11.444(2).
- Prohibit all harvesting-related motorized activities more than 100 feet from open roads from April 1 – June 15 per GB-NR3 (USFWS and DNRC 2010).

- Visual screening along open roads in the grizzly bear recovery zone will be retained. Retention of visual screening to the extent possible along open roads in non-recovery occupied habitat is recommended.
- No point in a unit with <25 TPA will be more than 600 feet to hiding cover or a topographic break, GB-NR4 (USFWS and DNRC 2010).
- Within commercial harvest units, retain patches of advanced regeneration of shade-tolerant trees as per LY-HB4 (USFWS and DNRC 2010).
- Effectively close restricted roads and skid trials in the Project Area via a combination of gates, kelly humps, rocks, and stumps. Maintain public motorized restrictions on restricted and roads during and after harvest activities.
- Retain at least 2 snags and 2 snag recruits per acre >21 inches dbh or the next largest available size class, particularly favoring ponderosa pine, western larch and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit.
- Retain 7-24 tons/acre of coarse-woody debris and emphasize retention of 15-inch diameter downed logs, aiming for at least one 20-foot-long section per acre LY-HB2 (USFWS and DNRC 2010). High-hazard clean up areas are exempt from standard coarse-woody debris retention guidelines.

Literature:

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

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

DNRC. 2022. McStrykerTimber Sale Project Environmental Assessment. Montana Department of Natural Resources and Conservation; Stillwater Unit, Olney, MT.

DNRC. 2023. HB 883 Precommercial Thinnning Projects Phase 1 Initial Proposal. Montana Department of Natural Resources and Conservation; Stillwater Unit, Olney, MT.

DNRC. 2023. Swift-Stryke Forest Management Project Initial Proposal. Montana Department of Natural Resources and Conservation; Stillwater Unit, Olney, MT.

DNRC. 2024. North Lake Salvage Forest Management Project Environmental Assessment Checklist. Montana Department of Natural Resources and Conservation; Stillwater Unit, Olney, MT.

DNRC. 2024. Olney North Forest Management Project Environmental Assessment. Montana Department of Natural Resources and Conservation; Stillwater Unit, Olney, MT.

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

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

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

USFWS. 1993. Grizzly bear recovery plan. Report on file at Missoula, MT. 181pp.

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

Wittinger, W.T. 2002. Grizzly bear distribution outside of recovery zones. Unpublished memorandum on file at USFS, Region 1, Missoula, Montana.

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**	**A-1**
Dust		**X**				**X**				**X**			**Y**	**A-1**

A-1: The project area is in Airshed 2, but is not within an impact zone, as defined by the Montana/Idaho Airshed Group. The Kalispell Impact Zone is approximately 4 miles southeast of the project area. Under the Action Alternative, slash piles consisting of tree limbs, tops, and other vegetative debris would be generated throughout the project area during harvesting, site preparation, and fuels reduction activities. These slash piles would be burned after operations have been completed. Burning within the project area would be short term and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana DEQ and Montana/Idaho Airshed Group. The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days.

Air Quality Mitigations:

- Only burn on days approved by the Montana/Idaho Airshed Group and DEQ.
- Conduct test burn to verify good smoke dispersion.
- Dust abatement may be applied on some road segments, depending on the seasonal conditions, proximity to private residences, and level of public traffic.

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					**Arch - 1**
Aesthetics		X				X				X			**YES**	**Aest – 1**
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					

Comments:

Arch-1: 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.

Archeology Mitigations:

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.

Aest-1: The gentle topography of the Lupfer Loop Timber Sale project area precludes it from being a high-profile or highly visible area. Most of the project is not visible from Highway 93 or Lupfer Loop road, with trees in the railroad right of way masking the area at lower elevations, and the mostly flat or gently sloping topography screening the higher elevation areas of the project.

At certain locations along these routes, skid trails, new roads, and landings would be visible.

Aesthetic Mitigations:

- Timber sale design would minimize visual impacts by variably spacing retention trees in the units and retaining varying amounts of leave trees along the unit boundaries.
- Blend unit edges and incorporate irregular shaped boundaries to mimic natural events.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

- Olney Urban Interface EA – March 2009
- Lupfer Morrill EA – April 2019
- Beaver to Boyle EA (2020)
- Good Long Boyle 2 EA (2013)
- Lupfer 3 Checklist EA (2010)
- Dogsled Tours/Training Proposal Checklist EA (2005)
- Good Long Boyle EA (2004)
- Olney North EA (2024)
- North Lake Salvage Timber Sale (2024)
- HB883 Precommercial Thinning (2024)
- Swift Stryke (Proposed - 2025))

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					**HUM-1**
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment	X				X				X					**HUM-2**

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Local Tax Base and Tax Revenues	X				X				X					HUM-2
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities			X			X				X			Y	HUM-3 HUM-4
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:

HUM-1: Mitigations have been developed for all log hauling to allow for safe travel on shared use of plowed roads during the winter season (see "Mitigations" below).

HUM-2: Due to relatively small size of the proposed timber sale, no measurable direct, indirect, or cumulative effects would be likely.

HUM-3: General recreation in the project area would continue to be accessible by the public on open, unrestricted roads. The Lupfer Loop Unit 1 & 2 Access Road has been regularly accessed for unauthorized firewood harvest. The trespassers have caused damage to the soil and timber resources by driving off road and leaving garbage throughout the area. This road would be gated to prevent further vehicle-caused damage by unauthorized users but will remain open to nonmotorized use.

HUM-4: If winter harvesting occurs, snow plowing on the Lupfer Loop Road and Luper Crossover Road would occur and mitigations for safe travel would be implemented as noted below. Due to log trucks using the shared plowed road, the disturbance to dogsled tours and the users' experience would be expected to be moderate, but of short duration. DNRC and the licensee have agreed to alter the licensed dogsled route to avoid mushing on a plowed road with truck traffic.

Log hauling would be restricted to weekdays only, with no hauling on weekends or holidays without permission from Forest Officer.

***Mitigations**:*

- Signs warning of harvest activities and logging would be installed.
- Roads may be temporarily closed for public safety reasons when equipment or logs are expected to block the road, if approved or directed by the Forest Officer. Temporary barricades notifying the public that the road is closed shall be placed within 500 feet of both ends of the closed area during the time of the closure. Barricades shall only be in place when the road is closed and removed when

open. Signs stating that the road is closed ahead shall be placed at convenient turnarounds prior to barricades.

- If winter harvest activities and log hauling take place, then DNRC would:
    - Further develop safety measures that ensure safe travel and communication between commercial harvesting operations and recreationalists (signage, reduced speed, and softened approaches onto plowed roads).
    - Continue to apply current road restrictions for the public.
    - Dogsledding route would be altered to avoid operating tours/training where log trucks are hauling if winter operations occur.

Locally Adopted Environmental Plans and Goals:

- There are no locally adopted environmental plans or goals associated with this proposal.

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 Montana Tech, MSU Morill, and Public Buildings Trusts. The estimated return to the trust for the proposed harvest is $132,430.20 based on an estimated harvest of 911 thousand board feet (5,549 tons) and an overall stumpage value of $23.87 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: Les Thomas
Title: Project Lead, Management Forester
Date: June 25, 2024

Finding

Alternative Selected

Upon Review of the Checklist EA and attachments, I find the Action Alternative, as proposed, meets the intent of the project objectives as stated in Section I – Type and Purpose of Action The lands involved in this project are held by the State of Montana in trust for the support of specific beneficiary institutions and DNRC is required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X Section 11; and, 77-1-212 MCA).

The Action Alternative complies with all pertinent environmental laws, the DNRC SFLMP and HCP, and is based upon a consensus of professional opinion on limits of acceptable environmental impact. This Action Alternative also addresses the three public comments received during the public scoping process. For these reasons and on behalf of DNRC I have selected the Action Alternative to be implemented on this project.

Significance of Potential Impacts

After a review of the scoping documents and comments, project file, Forest Management Rules, SFLMP and HCP checklists, and Department policies, standards, and guidelines, I find that all the identified resource management concerns have been fully addressed in this Checklist EA and its attachments.

Specific project design features and various recommendations by the resource management specialists will be implemented to ensure that this project will fall within the limits of environmental change. Taken individually and cumulatively, the proposed activities are common practices, and no project activities are being conducted on important unique or fragile sites. I find there will be no significant impacts to the human environments as a result of implementing the Action Alternative. In summary, I find that the identified adverse impacts will be controlled,

mitigated, or avoided by the design of the project to the extent that the impacts are not significant.

Need for Further Environmental Analysis

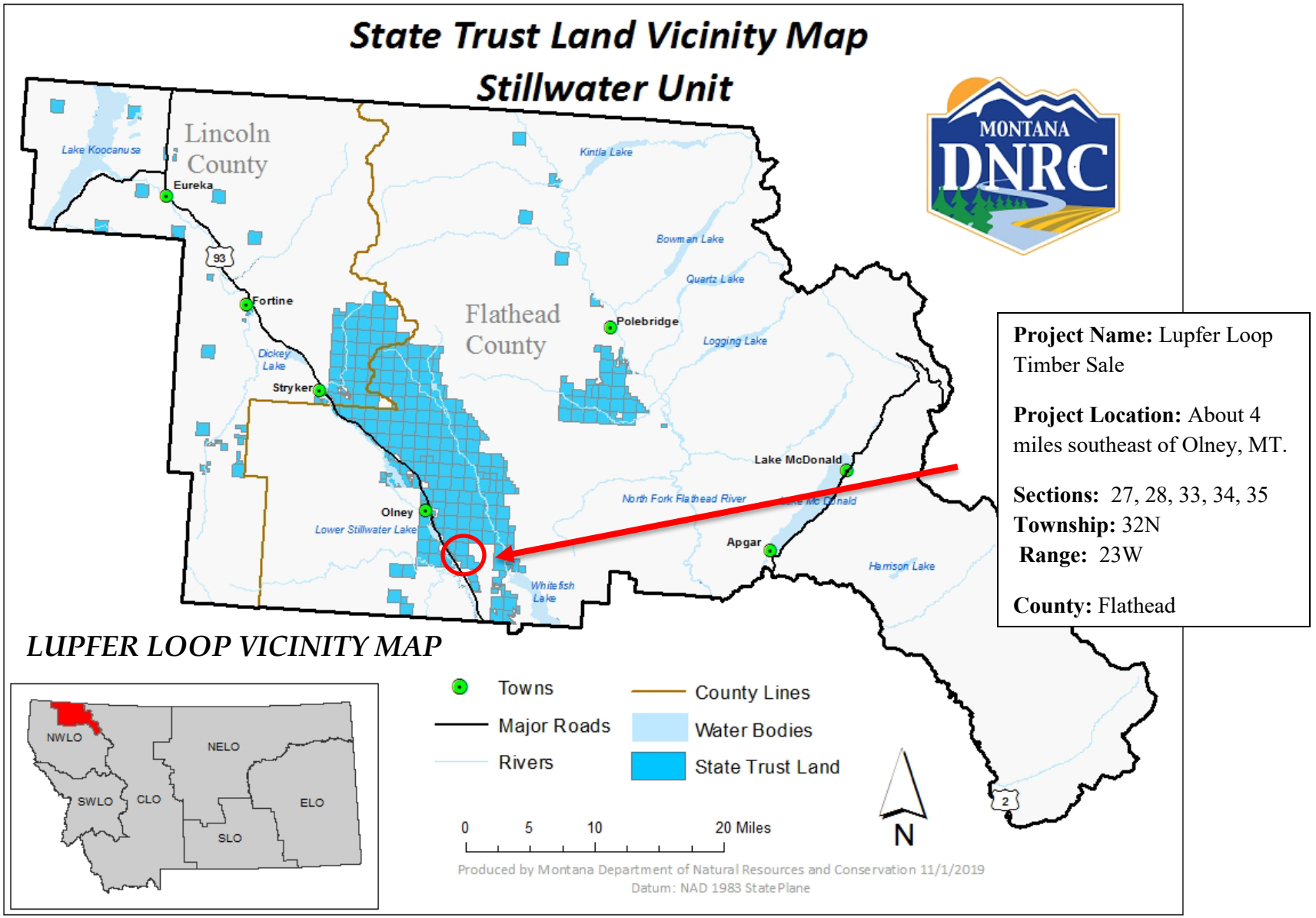
☐	EIS	☐	More Detailed EA	☒	No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Dave Ring
Title: Stillwater Unit Manager
Date: August 1, 2024
Signature: /s/ David A. Ring

Attachment A - Maps

A-1: Timber Sale Vicinity Map

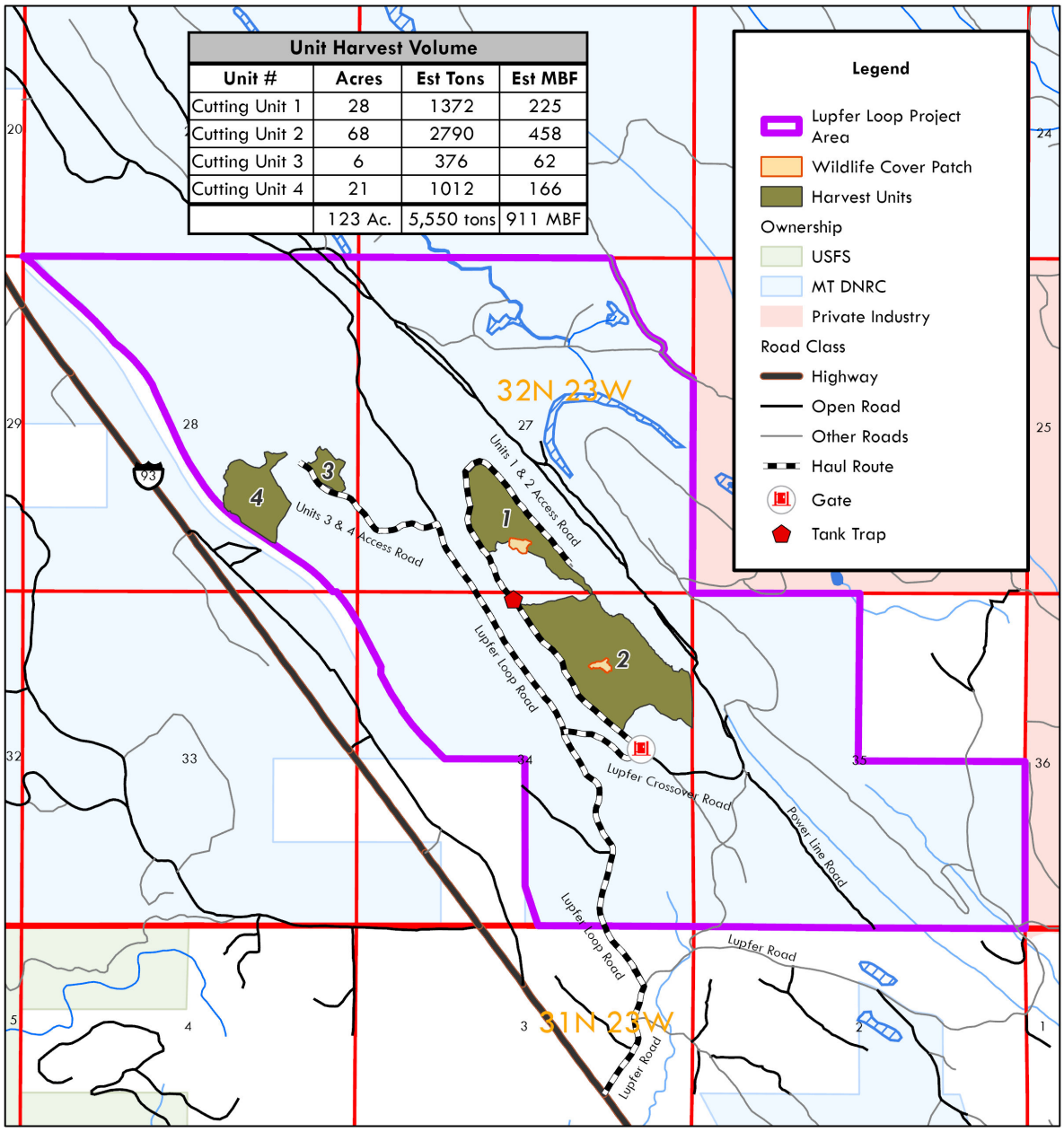


A-2: Timber Sale Project Map

Lupfer Loop Timber Sale Project Map

Sections 27, 28, 33, 34, 35
T32N R23W

Unit Harvest Volume			
Unit #	Acres	Est Tons	Est MBF
Cutting Unit 1	28	1372	225
Cutting Unit 2	68	2790	458
Cutting Unit 3	6	376	62
Cutting Unit 4	21	1012	166
	123 Ac.	5,550 tons	911 MBF

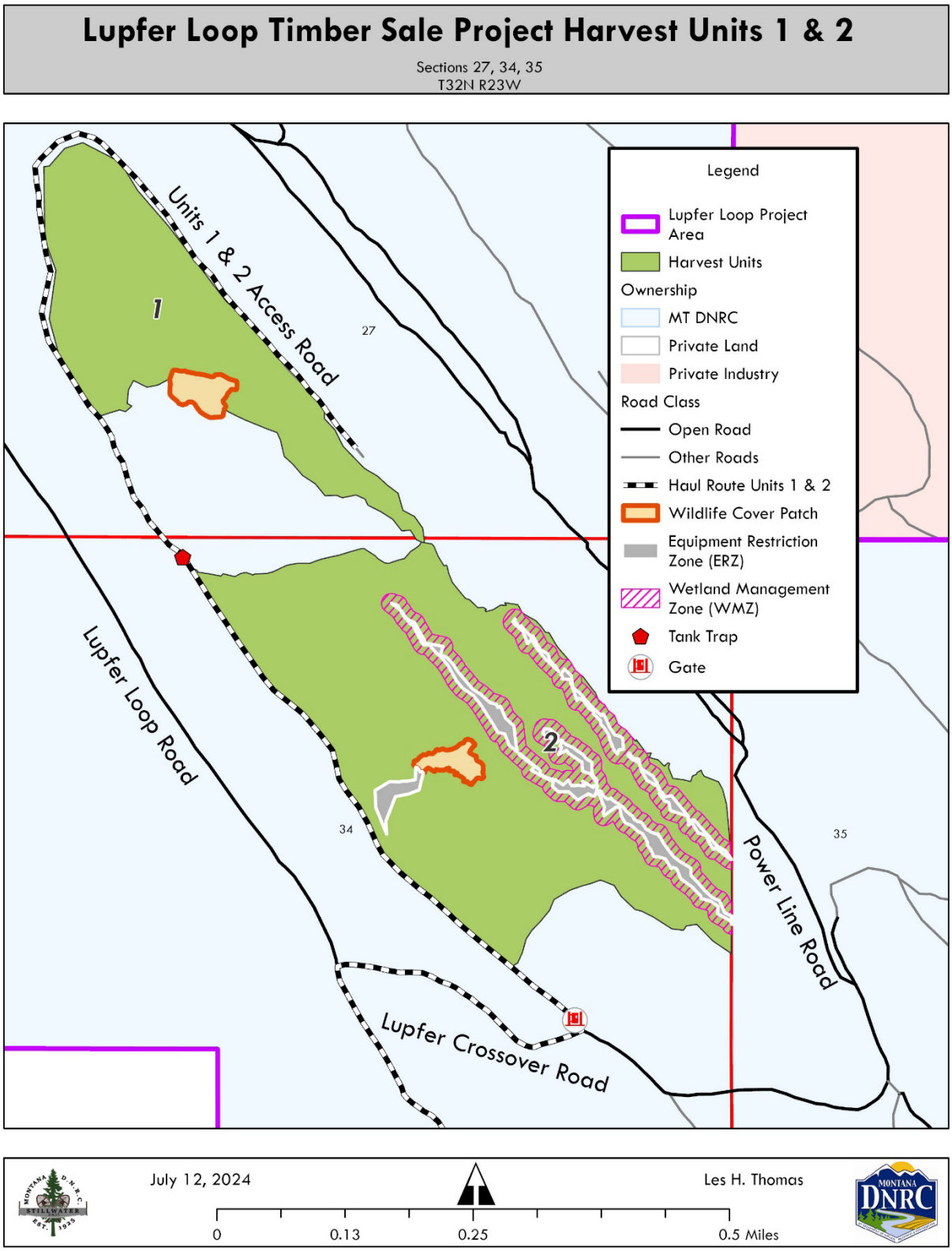


June 20, 2024

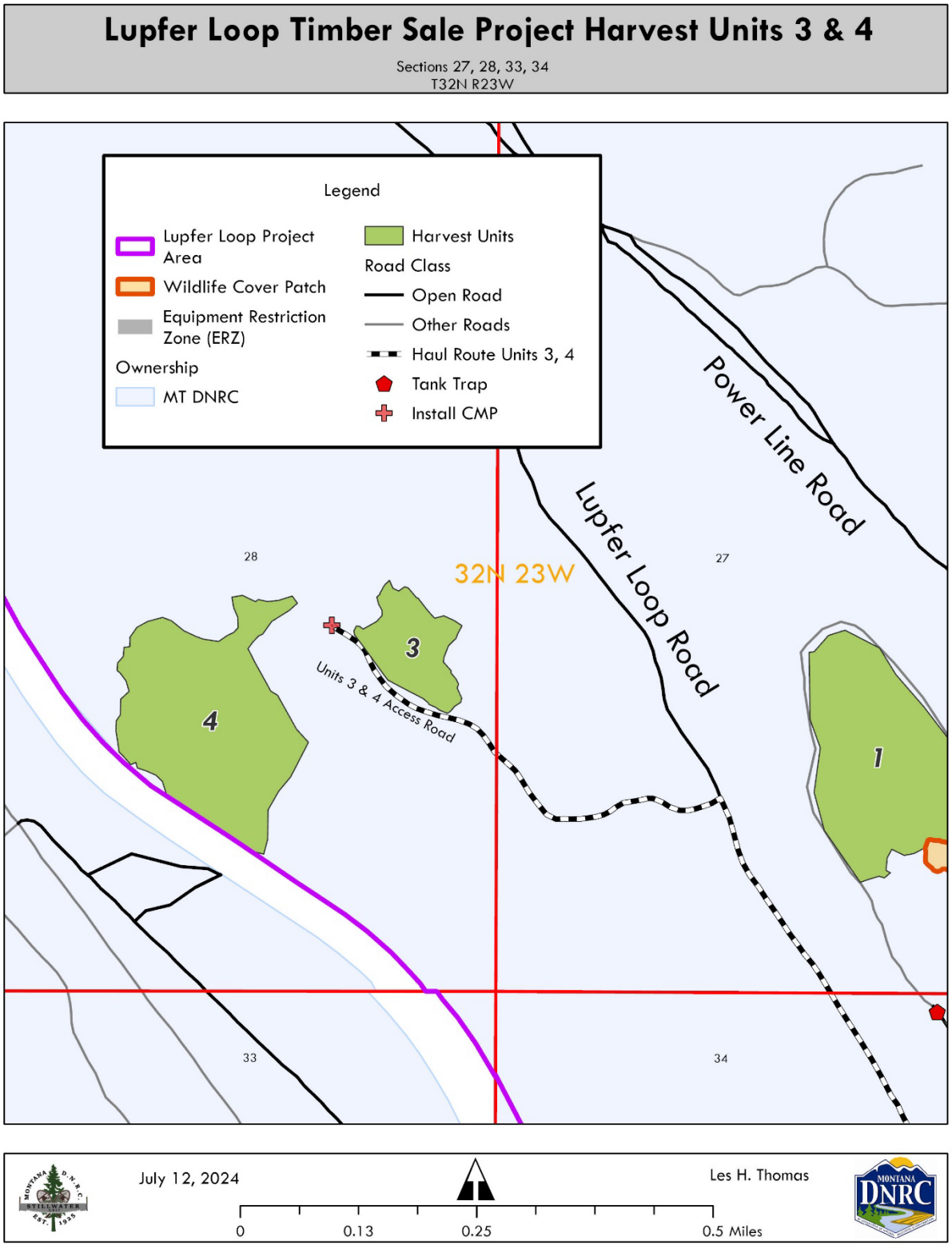
0 0.25 0.5 1 Miles

Les H. Thomas

A-3: Timber Sale Harvest Units 1 & 2 Map



A-4: Timber Sale Harvest Units 3 & 4 Map



Attachment B – Prescription Table

Attachment B: Prescription Table

Unit #	Acres Mbf/Acre	Prescription	Unit Details
1	28 acres/1372 Tons/225 MBF	Seed Tree	o Tractor harvest unit. o Dead/dying Df prevalent; Insect/Disease including bark beetles and root rot pockets throughout Unit. o Marked to leave wl, Df when necessary 50-70' spacing (9-17 TPA) o Marked to leave 2 snags, 2 snag recruits >21" DBH where possible, otherwise largest Dia class. o Grizzly Bear Cover Patch: A 1-acre area at the south end of unit 1 is flagged with orange flagging to indicate grizzly bear hiding cover. Sub-merchantable trees must be protected but merchantable trees along boundary may be harvested by reaching in with equipment or hand-felling. o Mechanical pile and scarify post-harvest. o Slash shade tolerant advanced regen within 15' of vigorous wl or Df regen. o Plant wl seedlings post slashing/site prep if seedlings have not naturally propagated within 3 years.
2	68 acres/2790 Tons/458 MBF	Seed Tree	o Tractor harvest unit. o Dead/dying Df prevalent; Insect/Disease including bark beetles and root rot pockets throughout Unit. o Marked to leave wl, Df when necessary 50-70' spacing (9-17 TPA). o Marked to leave 2 snags, 2 snag recruits >21" DBH where possible, otherwise largest Dia class. o Equipment Restriction Zones: Marked with orange and black striped flagging. No equipment inside marked area, but harvest allowed by hand or by reaching in with equipment. o Wetland Management Zones (WMZs): Unmarked. From ERZ flagging, WMZ extends 50 feet. Equipment allowed, but merchantable trees may be harvested, but sub-merchantable trees and shrubs must be protected. o Grizzly Bear Cover Patch: A 1-acre area in unit 2 is flagged with orange flagging to indicate grizzly bear hiding cover. Sub-merchantable trees must be protected but merchantable trees along boundary may be harvested by reaching in with equipment or by hand-felling. o Mechanical pile and scarify post-harvest. o Slash shade tolerant advanced regen within 15' of vigorous wl or Df regen. o Plant wl seedlings post slashing/site prep if seedlings have not naturally propagated within 3 years.

3	6 acres/376 Tons/62 MBF	Seed Tee	o Tractor harvest unit. o Dead/dying Df prevalent; Insect/Disease including bark beetles and root rot pockets throughout Unit. o Marked to leave wl, Df when necessary 50-70' spacing (9-17 TPA) o Marked to leave 2 snags, 2 snag recruits >21" DBH where possible, otherwise largest Dia class. o Mechanical pile and scarify post-harvest. o Slash shade tolerant advanced regen within 15' of vigorous wl or Df regen. o Plant wl seedlings post slashing/site prep if seedlings have not naturally propagated within 3 years.
4	21 acres/1012 Tons/166 MBF	Seed Tree	o Tractor harvest unit. o Dead/dying Df prevalent; Insect/Disease including bark beetles and root rot pockets throughout Unit. o Marked to leave wl, Df when necessary 50-60' spacing (12-17 TPA) o Marked to leave 2 snags, 2 snag recruits >21" DBH where possible, otherwise largest Dia class. o Mechanical pile and scarify post-harvest. o Slash shade tolerant advanced regen within 15' of vigorous wl or Df regen. o Plant wl seedlings post slashing/site prep if seedlings have not naturally propagated within 3 years.

DBH = Diameter at Breast Height
Df = Douglas-fir
ERZ = Equipment Restriction Zone
WMZ = Wetland Management Zone
wl = Western Larch
wwp = Western White Pine