

LUPFER MORRILL TIMBER SALE

Checklist Environmental Assessment



MONTANA DEPARTMENT OF NATURAL RESOURCES AND
CONSERVATION
NORTHWEST LAND OFFICE – STILLWATER UNIT
APRIL 2019



Environmental Assessment Checklist

Project Name: Lupfer Morrill Timber Sale
Proposed Implementation Date: June 2019
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 Morrill Timber Sale. The project is located just south and east of Olney, Montana, and is accessed by the Lupfer Loop Road, east of Highway 93, (refer to Attachments Vicinity Map A-1 and Project Map A-2) and includes the following sections: 20, 21, 27, 28, 34 and 35 of T32N, R23W.

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools			
Public Buildings	Sec. 27, 35, T32N R23W	477	37
MSU 2 nd Grant			
MSU Morrill	Sec. 20, 28, T32N R23W	889	171
Eastern College-MSU/Western College-U of M	Sec. 21, T32N R23W	640	47
Montana Tech	Sec. 34, T32N R23W	497	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:

- Contribute 1.3 to 2 MMbf to the annual targets of timber-harvest volumes of DNRC and the Northwestern Land Office. DNRC is required by state law (MCA 77-5-221 through 223) to sell approximately 56.9 MMbf of timber annually and continue to produce revenue over time.
- Respond to recent increase in insect and disease damage to subalpine fir and grand fir within the project area by salvaging dead and dying trees.
- Continue to apply silvicultural prescriptions in the Lupfer area to promote biodiversity as called for in the State Forest Land Management Plan (1996), as well as implement the next phases of forest management on past silvicultural treatments.

- Apply Best Management Practices (BMPs) or meet design criteria that are necessary to promote long-term water quality during logging and road improvement operations.
- Establish areas of regeneration of the desired species mix, improve vigor/tree growth, and meet the Habitat Conservation Plan (HCP) commitments and Forest Management Rules in relation to wildlife, fisheries, and water quality.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	16
Seed Tree	68
Improvement Cut	73
Overstory Removal	97
Total Treatment Acres	259
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	0
Planting	15
Proposed Road Activities	# Miles
New permanent road construction	0
New temporary road construction	0.5
Road maintenance	7.50
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	
Fuel Reduction/Slashing/Hand Piling	4

Duration of Activities:	59 Months
Implementation Period:	June 2019-July 2024

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:
 - March 13, 2018
- PUBLIC SCOPED:
 - The scoping notice was posted on the DNRC Website for 30 days at: <http://dnrc.mt.gov/public-interest/public-notice>
 - In March 2018, DNRC solicited public participation for 30 days on the Lupfer Morrill Timber Sale Project. The Initial Proposal with maps was sent to approximately 50 individuals, agencies, and other organizations that have expressed interest in DNRC's management activities. A notification of this project was also placed in the Whitefish Pilot and Daily Interlake newspapers, as well as being posted at the Olney Post Office.
- AGENCIES SCOPED:
 - MT Fish, Wildlife and Parks.
 - All Montana Tribal Organizations
- COMMENTS RECEIVED:
 - *How many*: There were nine comments received, four comments by mail/e-mail, and five comments by telephone.
 - *Concerns*:
 - Two comments were from the State of Montana Fish, Wildlife, and Parks stating they had no comment, the Northern Cheyenne Tribe's response stated no concerns, and one comment received was in support of the project (F.H. Stoltze Land & Lumber).
 - Two individuals working for an adjacent landowner telephoned to ask questions and express concerns over how the project might impact their client's proposed subdivision of his adjacent property.
 - Bonneville Power Administration (BPA) telephoned to inquire about removing trees that could potentially threaten their powerlines.
 - Two landowners adjacent to the project area requested fuel reduction bordering their land.
 - *Results (how were concerns addressed)*:
 - DNRC has a road easement through subdivision and would grade and brush that 0.2 miles of native surface road. Logging traffic would use the road to access the county road for several months.
 - Trees that may threaten powerlines in harvest units would be removed and BPA would be notified when activities begin, as requested.
 - Two areas adjacent to the landowners asking for fuels reduction near their property have been added to the project. For one area, a Seed Tree harvest has been determined as the appropriate prescription to meet DNRC's goals and provide fuels reduction, and in the other, a dense stand of advanced lodgepole pine regeneration would be slashed/thinned to lessen fuel loading and increase health and vigor of the remaining trees. The stand surrounding this advanced regeneration would also be treated with an Improvement Cut, which would result in lessened fuel loading.

DNRC specialists were consulted, including: Chris Forristal (Wildlife Biologist), Marc Vessar (Hydrologist), Patrick Rennie (Archeologist), and Nicole Stickney (Real Estate Specialist).

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

PROJECT DEVELOPMENT:

- Stand Prioritization
 - Initial reconnaissance of the area included prioritizing areas in Morrill Trust and in stands where previous management offered an opportunity to continue past silvicultural prescriptions.
 - Wildland Urban Interface Fuel Reduction: Telephone calls from adjacent landowners requesting reduction of fuels on DNRC land bordering their property directed foresters on considering high standard hazard fuels reduction treatments near private property.
 - Stand health: The following types of conditions focused foresters on considering treatments to improve stand health. These included areas of advanced insects/disease (bark beetles, stem rots, rusts), and stands currently outside the DNRC's desired future conditions.

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.
- **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 2006). The Group determines the delineation of airsheds and impact zones throughout Idaho and Montana. Airsheds describe those geographical areas that have similar atmospheric conditions, while impact zones describe any area in Montana or Idaho that the Group deems smoke sensitive and/or having an existing air quality problem (Montana/Idaho Airshed Group 2006). As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit.

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 Eastern/Western Montana College, MSU Morrill, Montana Tech, and Public Buildings Trusts at this time. Salvage logging, firewood gathering, recreational use, fire suppression, noxious-weed control, additional requests for permits and easements, and ongoing management requests 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. A commercial timber harvest would take place to remove between 1.3 and 2 MMBf of timber using ground-based methods on 259 acres. Specific harvest unit data is provided in Attachment B – Lupfer Morrill Timber Sale Project Prescription Table. Using this table with maps in Attachment A will provide additional detail for this project.

New stands of healthy trees would be regenerated on 84 acres through seed tree with reserves and clear cut with reserves treatments.

97 acres of successfully regenerated stands would have the seed trees removed, retaining 2 snags and 2 snag recruits per acre for wildlife considerations (also known as an overstory removal treatment).

73 acres would be treated with improvement/salvage cuts to improve stand composition and quality by removing trees with insect/disease problems and less desirable species.

5 acres would be slashed/thinned and hand-piled for fuels reduction purposes adjacent to private property.

Mechanical site preparation would occur on 145 acres. Site preparation would facilitate the establishment of natural regeneration and/or the process of planting when natural regeneration is not likely to occur or doesn't occur.

15 acres would be planted postharvest. Additional postharvest acres may be planted dependent on the successful establishment of natural regeneration.

The commercial timber harvest and fuels reduction from units 3, 11, 12, 13, 14, and 15 would be implemented to reduce the potential for a high intensity wildland fire near private landowners.

Weed spraying would occur on 1.4 miles of roads, with grass seeding occurring on disturbed surfaces and road beds as needed.

Road maintenance and BMP improvements would be performed on approximately 7.50 miles of existing permanent and temporary roads.

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:

Portions of the project area were harvested in the early to mid-2000's. Units 4a, 4b, 5a-5e, 6, 7, 8 were harvested under the Good Long Boyle EA (2004). The treatments used on the Good Long Boyle project were a combination of commercial thinning, seed tree with reserves, and shelterwood harvests. Goals of that project included providing structural diversity while increasing the variety and vigor of seral species by opening the canopy layer and converting areas of overstocking to seral species.

Unit 1 was harvested under the Lupfer 3 Timber Sale EA (2010). The unit was a combination seed tree with reserves/commercial thin to reduce fuel loading, improve tree vigor, and move the stand towards its Desired Future Condition (DFC) of western larch/Douglas-fir and western white pine. Regeneration has not been successful due to quantity of understory and lack of site preparation.

Unit 9 is part of a parcel of land acquired by DNRC in 2015 and is a dense lodgepole post & pole stand with stagnated growth and vigor, making it susceptible to insect and disease attack.

Insect and disease are prevalent in the grand fir and subalpine fir scattered throughout the project area.

Approximately 71% (1,921 acres) of the 2,713-acre project area has not been treated in the last twenty years.

Fisher and Bradley (Fire Ecology of Western Montana Habitat Types, 1987) described fire ecology of habitat-type groups in Montana. Within the proposed project area, the Moist Lower Subalpine fir habitat types (Fire Group 9) and the Warm, Moist Grand Fir habitat types (Fire Group 11) dominate the area. Fire Group 9 habitat types are in the subalpine fir and spruce climax series and fire history studies are limited but generally indicate infrequent, mixed-severity fires. Fire Group 11 has higher frequency of low to moderately severe fires.

Potential old-growth stands in the harvest areas have been evaluated to verify the old-growth status of those areas. There are no stands that qualify as old-growth in the project area.

The following rare or sensitive plants were identified within the Montana Natural Heritage Database to potentially occur within the project area: Crested Shieldfern (*Dryopteris cristata*), Adders Tongue (*Ophioglossum pusillum*), and Pustulate Tarpaper Lichen (*Collema curtisporum*). Northern Toadflax (*Geocaulon lividum*), a potential species of concern, was also identified as potentially occurring within the project area. Field reconnaissance did not find these species within any proposed harvest units.

Spotted knapweed, orange hawkweed, Canadian Thistle and Oxeye Daisy have been identified in the project area. The main open road in the project area, Lupfer Loop Road, has been part of the Stillwater Unit's yearly weed spraying program.

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														
Vegetative community	X				X				X					
Forest Fuels	X				X				X					
Old Growth	X				X				X					
Rare Plants	X				X				X					
Noxious Weeds		X				X				X				
Action														
Vegetative community		X				X				X			Y	V-1
Forest Fuels		X				X				X				V-2
Old Growth	X				X				X					V-3
Rare Plants	X				X				X				Y	
Noxious Weeds		X				X				X			Y	V-4

Comments:

V-1: The Action Alternative would harvest 1.3 to 2 MMbf over 259 acres of treatment area and would be treated with prescriptions including seedtree with reserves, clearcut with reserves, improvement cut, overstory removal, and fuel reduction/slashing (see Attachment B). The even-aged management approach utilized on some stands (seedtree, clearcut, overstory removal) would focus on transitioning them toward the DNRC's desired future conditions. Uneven-aged management in some stands would continue management from earlier entries, provide multiple canopy levels and structure, and maintain species diversity.

Treatments would reduce current mixed conifer and lodgepole pine cover types by 57 and 11 acres respectively. Of this 42-acre area, 29 acres would transition to western larch/Douglas-fir cover type, and 13 acres will begin transitioning towards the western white pine DFC. Approximately 113 acres would be converted to the 0-39-year age class by clearcut with reserves (16 acres) and overstory removal treatments (97 acres).

Mechanical scarification would occur on 145 acres following harvest to create seedbeds that would be receptive to natural regeneration as well as planted trees. This would allow the vegetative community to grow into a desirable species mix that would be productive into the future.

V-2: Although the potential for ignition of a wildfire would continue to exist following treatment, fuel treatments following harvest would limit the fire intensity under most circumstances. The proposed treatments would reduce the number of trees, creating a wider spacing and reducing the amounts of understory trees with boughs that extend to the ground and act as ladder fuels which can carry fires into the crowns of the forest. The success of aerial and ground attacks on wildfires would potentially be improved because fires would most likely burn through and remain in the understory, rather than climbing into the overstory and moving through the upper canopy.

Cumulatively, natural stand development and past timber sales have created a mosaic in the area. Maintaining the mosaic, in conjunction with future fuel-treatment projects, would reduce the potential for high intensity wildfires.

V-3: No stands qualifying as old-growth were found within the project area. Cumulatively there are 15,692 acres of old-growth on the Stillwater Unit and following this and other planned harvest activities on the Unit, there would be an estimated 15,646.5 acres of old-growth, representing 13.5 % of the area under jurisdiction of the Stillwater Unit (excluding lands DNRC recently acquired in 2018).

V-4: Soil disturbances and logging equipment could increase the amount and distribution of noxious weeds in the project area. Mitigations listed below would lessen any impacts to the area.

Vegetation Mitigations:

- Implement High Standard Hazard Reduction practices for 100' inside unit boundaries on harvest units within 1,000 feet of structures or adjacent to open roads.
- If any of the listed sensitive plants are found during this project period, then harvesting operations would be diverted from the plants and further reviewed by DNRC and plant specialists.
- 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.
- Additional mitigation measures for noxious weed control include the Stillwater Units' yearly weed spraying program which includes Lupfer Loop Road, and 1.4 miles of weed spraying on roads other than the Lupfer Loop Road that would occur as part of the proposed project.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

According to the *Soil Survey of Flathead National Forest Area, Montana* (Martinson and Basko 1998) five landtypes have been identified in the project area (12, 14-2, 23-7, 23-8, and 28-7). All the landtypes are considered to have a slight or moderate susceptibility to surface erosion. Harvest units within the project area are located on all but landtype 23-8. All landtypes are susceptible to compaction which can lower the productivity of the soil.

Past harvesting has occurred on most of the project area and proposed harvest area. Approximately 56 percent of the proposed harvest acres have had timber management activity in the last 20 years; other areas have been logged in the last century. During field reconnaissance, visual estimates of impacted areas within previously harvested sites is less than 10 percent. This includes skid trails and landings.

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

Comments:

S-1: Physical disturbance in the form of compaction, displacement and erosion is expected to be low for the Action Alternative when all recommended mitigations and Forestry Best Management Practices (BMPs) are followed.

S-2: Nutrient cycling and soil productivity would be protected by maintaining recommended levels of coarse woody debris and fine material on site. Additionally, managing the season of operation by following Forestry BMPs and recommended mitigation measures would result in a low risk of low impacts to soil productivity.

S-3: Slopes in the project area are gentle and not prone to instability or mass wasting.

Soil Mitigations:

ARM 36.11.422 (2) and (2)(a) state that appropriate BMPs shall be determined during project design and incorporated into implementation. To ensure that the incorporated BMPs are implemented, the specific requirements would be incorporated into the DNRC Timber Sale Contract. As part of this alternative design, the following BMPs are considered appropriate and would be implemented during harvesting operations:

- Limit equipment operations to periods when soils are relatively dry, (less than 20 percent), frozen, or snow-covered to minimize soil compaction and rutting. Check soil moisture conditions prior to equipment start-up.
- On ground-based units, 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.
- Keep skid trails to 20 percent or less of the harvest unit acreage. Provide for drainage on skid trails and roads concurrently with operations.
- Slash disposal: Limit the combination of disturbance and scarification to 30 to 40 percent of the harvest units. No dozer piling on slopes over 35 percent; no excavator piling on slopes over 40 percent, unless the operation can be completed without causing excessive erosion. Consider disturbance incurred during skidding operations to, at least, partially provide scarification for regeneration.
- Retain 10 to 20 tons of large woody debris and a feasible majority of all fine litter following harvesting operations. On units where whole tree harvesting is used, implement one of the following mitigations for nutrient cycling: 1) use in-woods processing equipment that leaves slash on site; 2) return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.

Literature:

Martinson, A. H. and W. J. Basko. 1998. Soil Survey of Flathead National Forest Area, Montana. USDA Forest Service, Flathead National Forest, Kalispell, Montana.

WATER QUALITY AND QUANTITY:

This project is in the Upper Stillwater River 6th code HUC (170102100107) which contains approximately 17,511 acres. Approximately 1.5 percent of the watershed is proposed for harvest; no Class 1 streams are near harvest units and therefore, no fish-bearing streams are present. Past analysis in the area has identified stable streams.

Water Quality and Quantity Existing Conditions:

Streams in the project area and adjacent to the units are all intermittent or discontinuous streams. A review of previous analysis (DNRC 2000, DNRC 2010, DNRC 2013) shows very limited perennial surface water resources in the project area. Much of the hydrologic features are simply wetlands (mainly seasonal) with no connectivity to the Stillwater River. No fish bearing streams were identified.

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

Comments:

WQ-1: Due to the limited surface water features in the project area and along the haul route coupled with the Stillwater State Forest's road maintenance program, impacts to water quality

were not identified during field reconnaissance. All laws relating to streamside management zones would be implemented.

WQ-2: Due to the limited size of harvest in relation to the Upper Stillwater River watershed, a very low risk of a measurable increase in water yield would be expected from this Action Alternative.

Water Quality & Quantity Mitigations:

- Use all applicable forestry BMPs.
- Follow Soils Analysis mitigations listed above.

FISHERIES:

Fisheries Existing Conditions: Due to the intermittent and discontinuous characteristics of the streams in the project area, no fish were observed or are present in the project area. No further analysis is warranted.

WILDLIFE:

Wildlife Existing Conditions: The 2,713-acre project area contains of variety of habitat conditions for native wildlife species, ranging from large wetlands to regenerating seedling stands to mature forest. Approximately 1,772 acres in the northern two-thirds of the project area are lands under DNRC's Habitat Conservation Plan (HCP, USFWS and DNRC. 2010). DNRC lands around the southern end of the project area are bordered by private lands and low-density housing developments. The Burlington-Northern Santa Fe (BNSF) railroad and Montana Highway 93 run along the western edge of the project area. Open road density within the project area is high at 3.0 miles per square mile, using simple linear calculations. The project area contains 1,137 acres of mature forest stands (trees ≥ 9 " dbh with $\geq 40\%$ canopy closure), however none of these stands are old-growth forest using Green et al. (1992) guidelines. Another 648 acres consist of stands with mature trees and a more open ($< 40\%$) canopy. Approximately 794 acres are comprised of regenerating sapling or pole-sized stands and another 133 acres are unforested openings (e.g. wetlands). Overall, habitat conditions within the project area are favorable for a wide diversity of wildlife species due to the variety of forested conditions and habitats available. Habitat conditions outside of the project area within the cumulative effects analysis areas (CEAAs) trend toward younger forest due more to intensive forest management on recently-acquired private industrial timber lands and other neighboring private lands.

No-Action Alternative: None of the proposed activities would occur. In the short-term, no changes to the amounts, quality, or spatial arrangement of forested habitat would occur. In the long-term and in the absence of disturbance, habitat suitability for species associated with mature forest would likely decrease due to forest insects and disease currently impacting the large trees in these stands. Overall, an increase in habitat availability for species preferring mature connected forests would likely occur over the long term as other stands mature, while habitat availability would decrease for species preferring young, open stand types.

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 <i>(Ursus arctos)</i> Habitat: Recovery areas, security from human activity		X				X				X			Y	WI-1
Canada lynx <i>(Felix lynx)</i> Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone		X				X				X			Y	WI-2
Sensitive Species														
Bald eagle <i>(Haliaeetus leucocephalus)</i> Habitat: Late-successional forest within 1 mile of open water		X			X				X					WI-3
Black-backed woodpecker <i>(Picoides arcticus)</i> Habitat: Mature to old burned or beetle-infested forest	X				X				X					WI-4
Coeur d'Alene salamander <i>(Plethodon idahoensis)</i> Habitat: Waterfall spray zones, talus near cascading streams	X				X				X					WI-4
Columbian sharp-tailed grouse <i>(Tympanuchus Phasianellus columbianus)</i> Habitat: Grassland, shrubland, riparian, agriculture	X				X				X					WI-4
Common loon <i>(Gavia immer)</i> Habitat: Cold mountain lakes,	X				X				X					WI-4

Wildlife	Impact												Can Impact be Mitigated?	Comment Number	
	Direct				Secondary				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High			
nest in emergent vegetation															
Fisher <i>(Martes pennanti)</i> Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian		X				X				X				Y	WI-5
Flammulated owl <i>(Otus flammeolus)</i> Habitat: Late-successional ponderosa pine and Douglas-fir forest	X				X				X						WI-6
Gray Wolf <i>(Canis lupus)</i> Habitat: Ample big game populations, security from human activities		X				X				X					WI-7
Harlequin duck <i>(Histrionicus histrionicus)</i> Habitat: White-water streams, boulder and cobble substrates	X					X			X						WI-4
Northern bog lemming <i>(Synaptomys borealis)</i> Habitat: Sphagnum meadows, bogs, fens with thick moss mats	X				X				X						WI-4
Peregrine falcon <i>(Falco peregrinus)</i> Habitat: Cliff features near open foraging areas and/or wetlands	X				X				X						WI-4
Pileated woodpecker <i>(Dryocopus pileatus)</i> Habitat: Late-successional ponderosa pine and larch-fir forest		X				X				X					WI-8

Wildlife	Impact												Can Impact be Mitigated?	Comment Number			
	Direct				Secondary				Cumulative								
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High					
Townsend's big-eared bat <i>(Plecotus townsendii)</i> Habitat: Caves, caverns, old mines	X				X					X							WI-4
Wolverine <i>(Gulo gulo)</i> Habitat: Alpine tundra and high-elevation boreal forests that maintain deep persistent snow into late spring	X				X					X							WI-9
Big Game Species																	
Elk		X				X					X					N	WI-10
Whitetail		X				X					X					N	WI-10
Mule Deer	X				X					X						N	WI-10
Other																	
Mature Forest		X				X					X					N	WI-11

Comments:

WI-1. Grizzly Bear – Harvesting would occur on 242 acres within grizzly bear recovery zone and 17 acres of non-recovery occupied habitat. Approximately 167 acres of grizzly bear hiding cover would be harvested, or about 13.4% of available cover within the project area. Hiding cover would be removed on 48 acres and reduced on another 120 acres. No new open roads would be built, but motorized use of 7.3 miles of existing roads within the project area would increase during project implementation. Visual screening along open roads would be retained adjacent to regeneration-type harvest units. Additionally, spring timing restrictions would be applied from April 1 – June 15 (except adjacent to open roads) to provide security for grizzly bears in the spring. Conducting harvest activities during the denning season (November 16 – March 31) would further reduce displacement risk to bears. Any grizzly bears using the project area could be temporarily displaced by the proposed activities for up to three years. Impacts to hiding cover and increased disturbance under the Action Alternative would be additive to proposed USDA Forest Service projects (Taylor Hellroaring) and recent forest management projects on DNRC and adjacent private lands within the CEAA. The greatest risks to bears within the CEAA would continue to be human habitations and associated attractants that bring bears into conflict with people.

WI-2. Canada Lynx – Approximately 259 acres of suitable lynx habitat (11.8% of existing suitable habitat in the Project Area) would be impacted by the proposed timber sale. Of these acres, 83 acres would be treated with harvest prescriptions that would not retain enough conifer cover to continue providing suitable lynx habitat immediately post-harvest. The remaining 176 acres would receive treatments that would reduce some suitable habitat attributes but would overall continue to provide suitable lynx habitat. To ensure that forest structural attributes preferred by snowshoe hares remain following harvest, some dense patches of advanced regeneration would be retained within portions of lynx winter forage habitat. Additionally, 10 to

20 tons/acre of coarse woody debris would be retained in accordance with DNRC Forest Management Rules (*ARM 36.11.414, except along boundaries with private property*) and retention of downed logs ≥ 15 inch diameter would be emphasized. Lynx habitat connectivity within the project area would be reduced; however, overall suitable lynx habitat would remain continuous. The proposed activities could temporarily displace any lynx that might be using the area for up to three years. Disturbance/displacement and habitat alteration by the proposed DNRC activities would be additive to proposed USDA Forest Service projects (Taylor Hellroaring) and recent forest management projects on DNRC and adjacent private lands within the CEAA.

WI-3. Bald Eagle – The project area falls within the home range of the Lower Stillwater Lake eagle pair; however the nest site is over 0.4 miles from any proposed harvest. Homes, open roads, Montana Highway 93 and the BNSF Railway are situated between the nest site area and the project area. Thus, eagles using this territory are likely habituated to substantial levels of human presence and mechanized disturbance in the vicinity of the project area. Appreciable use of the project area by bald eagles would not be expected due to the lack of other waterbodies and suitable foraging sites.

WI-4. 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-5. Fisher – Approximately 157 acres of potential fisher habitat would be affected by the proposed activities (11.5% of fisher habitat available in the Project Area). Of these acres, 111 acres would not be suitable post-harvest due to low amounts of mature conifer cover. The remaining 46 acres of stands would receive intermediate harvest treatments, and thus remain suitable for fisher use post-harvest due to sufficient retention of mature trees. To reduce potential adverse effects on fishers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained (*ARM 36.11.411*). These snags are important habitat features that provide resting and denning sites for fishers. Approximately 1.2 acres of riparian fisher habitat would be selectively thinned, which would reduce habitat quality but not remove it from suitability. Overall connectivity would not substantially change across the Project Area, as existing suitable habitat is patchy; suitable types are irregularly interspersed among unsuitable types. Considering the low availability of mature stands in the surrounding area, lack of fisher observations within the last 30 years (MNHP 2019), and prevalence of drier, unsuitable habitat types, the likelihood of fishers using the CEAA area is low.

WI-6. Flammulated Owls – Several small patches totaling 59 acres of suitable flammulated owl cover types are present within the project area, however none of this potential habitat is currently suitable for use by flammulated owls due to dense forest conditions. Additionally, none of it would undergo harvesting.

WI-7. Gray Wolf – Wolves may use habitat near the Project Area. Disturbance associated with timber sales at den and rendezvous locations can adversely affect wolves; however, timing restrictions would apply if den or rendezvous sites are documented (*ARM 33.11.430(1)(a)(b)*).

WI-8. Pileated Woodpecker – The proposed activities would affect 41 acres of suitable pileated woodpecker habitat (3.4% of habitat available in the Project Area). Of these acres, 32 acres (2.6% of habitat available in the Project Area) would be treated with harvest prescriptions causing these stands to become unsuitable for pileated woodpecker use post-harvest. The remaining acres would undergo intermediate harvesting and would remain suitable for pileated woodpeckers post-harvest, although fewer snags would be available for nesting and foraging.

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*). Habitat availability within much of the CEAA is limited due to past timber harvesting on private timberlands but the proposed action would only affect 2.7% of potentially suitable habitat within the CEAA. Habitat alterations due to the proposed action would be additive to recent forest management projects on adjacent private lands within the CEAA.

WI-9. Wolverine – No potentially suitable wolverine habitat exists within the proposed project area. The project area does not maintain deep snow into late spring and does not contain high-elevation alpine habitat. While a wolverine could pass through the project area during its extensive movements, appreciable use of the area is not expected. Given the large home range area (average 150+ sq. miles) wolverines occupy, and long distances wolverines typically cover during their movements, the proposed activities would not be expected to measurably affect use of the area by wolverines.

WI-10. Big Game – The proposed activities would reduce thermal cover on potential white-tailed deer, moose, and elk winter range (*DFWP 2008*). The proposed harvest would affect 160 acres of thermal cover (8.8% of thermal cover available in the Project Area). Of these acres, 138 acres (7.0% of thermal cover available in the Project Area) would receive treatments that would remove mature canopy cover to the extent that these stands would no longer provide sufficient thermal cover or snow intercept during typical winter conditions. Another 22 acres would be treated with intermediate harvesting and would continue providing some thermal cover post-harvest, albeit at a reduced quality. Approximately 648 acres of more open forest with mature trees would continue to grow and provide higher-quality thermal cover in the project area within the next 20 years. No new open roads would be built and visual screening along existing roads would be maintained where it is available. Impacts to thermal/hiding cover under the Action Alternative would be additive to proposed USDA Forest Service projects (Taylor Hellroaring) and recent forest management projects on DNRC and adjacent private lands within the CEAA. However, substantial changes in the overall use of the project area or CEAA by big game would not be expected.

WI-11. Mature Forest/Old-growth Forest – The proposed action would harvest approximately 81 acres of mature forest (7.1% of mature forest within the project area) with a reasonably closed canopy ($\geq 40\%$ canopy closure). Harvest prescriptions on 80 acres would reduce live tree densities to below 40% canopy closure and remove mature forest. Thus, these stands would no longer be suitable for wildlife species preferring dense forest with more shaded canopies. At the same time, habitat suitability for species utilizing younger stands and open forest with widely scattered mature trees would increase. Another 1.2 acres of mature forest habitat would undergo an intermediate (SMZ) harvest that would retain sufficient large trees to maintain over 40% crown closure. Approximately 1,058 acres (39.0% of the project area) of mature forest would remain within the project area upon completion of activities. Connectivity of mature forest would remain moderate within the project area due to past DNRC forest management projects. Timber harvesting on recently acquired and existing private lands within the last 40 years has removed much of the mature forest within the CEAA; the proposed action would be additive to these changes at the broader spatial scale. As these well-stocked younger stands grow, mature forest abundance and connectivity would be expected to improve over the next 40 years.

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 $\frac{1}{2}$ 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 motorized activities more than 100 feet from open roads from April 1 – June 15.
- Retain visual screening along roads to the greatest extent practicable.
- Effectively close restricted roads and skid trails in the Project Area via a combination of gates, kelly humps, rocks, and stumps.
- Retain patches of advanced regeneration of shade-tolerant trees as per *LY-HB4 (USFWS and DNRC 2010)* in all harvest units.
- Retain at least 2 snags and 2 snag recruits per acre >21 inches dbh or the next available size class, particularly favoring ponderosa pine, western larch and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit.
- Retain 10-20 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. High-hazard cleanup areas adjacent to private lands are exempt from this mitigation.

Literature:

DFWP. 2008. Maps of moose, elk, mule deer, and white-tailed deer distribution in Montana. Individual GIS data layers. Available online at:

- <http://fwp.mt.gov/gisData/imageFiles/distributionElk.jpg>
- <http://fwp.mt.gov/gisData/imageFiles/distributionMoose.jpg>
- <http://fwp.mt.gov/gisData/imageFiles/distributionMuleDeer.jpg>
- <http://fwp.mt.gov/gisData/imageFiles/distributionWhiteTailedDeer.jpg>

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

AIR QUALITY:

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Smoke	X				X					X				
Dust	X				X				X					
Action														
Smoke		X				X				X			Y	A-1, A-2
Dust		X				X				X			Y	A-3

Comments:

A-1: This project is within Airshed 2, but is not within an impact zone, as described by the Montana/Idaho Airshed Group. The Kalispell Impact Zone is approximately 4 miles southeast of the project area. Under the Action Alternative, some slash piles consisting of tree limbs, tops, and other vegetative debris would be created throughout the project area during harvesting and site preparation. These slash piles would ultimately be burned after harvesting and site preparation operations have been completed.

A-2: Burning that may occur on adjacent properties in combination with the proposed action could potentially increase cumulative impacts to the local airshed. However, because DNRC would burn only on approved days as determined by the Montana DEQ and Montana/Idaho Airshed group, cumulative impacts to air quality due to slash pile burning associated with the proposed action would also be expected to be minimal.

A-3: Under the Action Alternative, dust may be generated by log hauling activities during dry conditions; less dust would be generated if harvested during the winter.

Air Quality Mitigations:

- Burning activities within the project area would be brief in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion, as determined by the Montana Department of Environmental Quality, and the Montana/Idaho Airshed Group.
- The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days. DNRC would also follow regulations Flathead 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.
- During dry conditions dust abatement, such as water or magnesium chloride may be applied especially near residences.

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					ARCH-1
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			Y	AEST-1

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		
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					

Comments:

ARCH-1: The tribes of Montana were scoped but none identified a specific cultural resource concern. 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 revealed that no cultural or paleontological resources have been identified in the APE. Much of the project area has been inventoried to Class III standards for past timber sales. Additionally, many past timber harvesting operations have occurred historically on these tracts. Finally, because of a lack of geology that would suggest caves, rock shelters, or sources of tool stone, no additional archaeological investigative work will be conducted in response to this currently proposed timber harvest project. 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: Aesthetic impacts were analyzed using ArcGIS tools, aerial photos, and visiting possible viewpoints. Visual aesthetic impacts from the proposed project would vary depending on the elevation and location of the vantage point, as well as surrounding topography and forest cover.

The gentle topography of the Lupfer Morrill 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 Lower Stillwater Lake, 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 close range, standing within or adjacent to individual harvest units, the visual impact would be highest. Visual impacts would vary by prescription, from increased spacing of trees and small openings in areas of lesser harvest levels, to higher harvest level areas with open areas where individual scattered trees, stumps, and some logging slash would be visible.

Visual impacts would be greatest within the first few years after harvest. Over time, as the harvest areas regenerate, and the trees and brush grow larger, the visual distinction of the harvested areas will be lessened.

During harvest operations, noise may be discernable from private residences in the area.

Mitigations:

- Timber sale design would minimize visual impacts by variably spacing retention trees in the units and retaining various amounts of leave trees along the unit boundaries.
- Units 10 and 14 would have a visual screen of submerchantable and merchantable trees along the Lupfer Loop Road, and Unit 13 would have some screening along the northeast portion of the unit along the Cadenhead Road.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

- Beaver to Boyle EA (Proposed)
- Swift Divide Timber Sale Checklist EA (2019)
- Good Long Boyle 2 EA (2013)
- Lupfer 3 Checklist EA (2010)
- Dogsled Tours/Training Proposal Checklist EA (2005)
- Good Long Boyle EA (2004)

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

Recreation Existing Conditions: The project area is primarily located adjacent to the Lupfer Loop Road and the BNSF rail line and is in the vicinity of Lower Stillwater Lake and Highway 93. In the spring, summer and fall, the area is primarily used for hunting and firewood gathering. In winter months, the area is primarily used for licensed commercial dogsled tours that are authorized to operate between December 1st and April 1st or as conditions allow. For safety, the portion of Lupfer Loop Road that is utilized for dogsled tours is managed as restricted from motorized use between these dates. Currently, the licensee only operates on the weekends and weekly during the Christmas season although the license does not restrict operating days. As noted in the Dogsled Tours/Training Proposal Checklist EA (2005): *Future DNRC project management needs would take precedence over dogsled tours/training on the requested routes.* For example, if a future DNRC timber sale requires the use one of these roads to haul logs during winter months, log hauling would take precedence over the use of the road for guided dogsled tours/training.

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					

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			
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
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.

HUM-4: If winter harvesting occurred, snow plowing on the Lupfer Loop 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 may choose an alternate licensed route to avoid mushing on a plowed road with truck traffic.

Mitigations:

- Signs displaying location 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 turn-arounds 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 general public.
 - Work with licensee to find another route to operate dogsledding tours/training if winter operations occur.

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.*

- None

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 Alternative: The No-Action alternative would not generate any return to the trusts at this time.

Action Alternative: The timber harvest would generate additional revenue for the Eastern/Western Montana College, MSU Morrill, and Public Buildings Trusts. The estimated return to the trusts for the proposed harvest is \$329,540 based on an estimated harvest of 1,670,000 board feet (10,050 tons) and an overall stumpage value of \$32.79 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: Management Forester, Stillwater Unit
Date: March 13, 2019

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 Action Alternative also addresses public concerns received during the scoping process.

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. DNRC will assure existing recreation licensee is kept informed on status of logging activity and would be afforded other routes to conduct his licensed activities as described in the Dogsled Tours/Training Proposal Checklist EA, (2005). 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 of 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: Michael McMahon

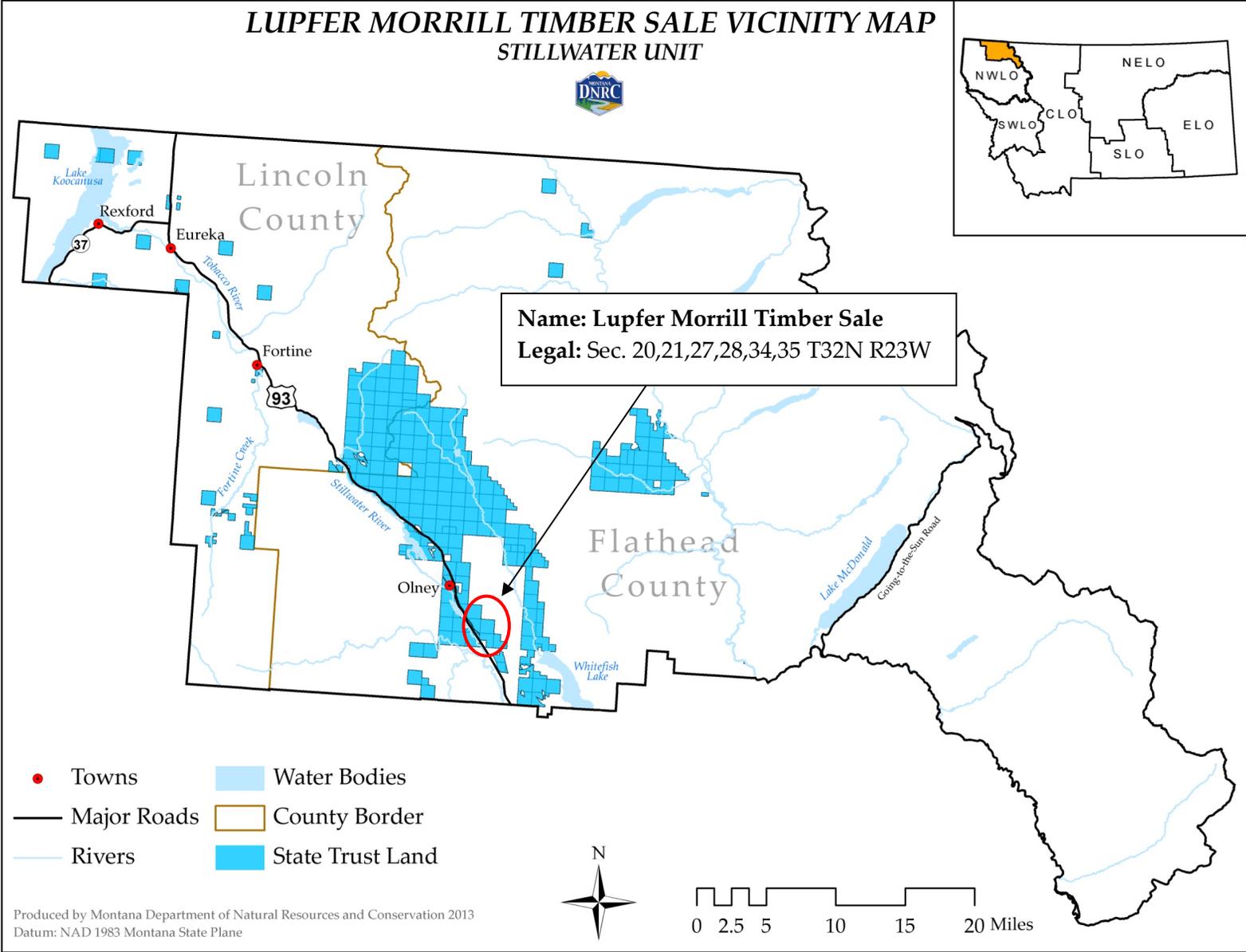
Title: Forest Management Specialist

Date: April 23, 2019

Signature: /s/ Michael J McMahon

Attachment A- Maps

A-1: Timber Sale Vicinity Map



Attachment B- Prescription Table

Attachment B:

Lupfer Morrill Timber Sale Project Prescription Table

Unit Number	Est. Acres / MBF	Prescription	Particulars involved in unit(s)
1	32 acres 32 mbf	Improvement Cut.	<ul style="list-style-type: none"> - Tractor harvest unit. - Harvest of some overstory trees, including sawlogs that would potentially hit powerline per BPA. Retain up to 6-10 seed trees/acre (70-100' spacing). - Slash stagnant sub-merchantable trees along most of the first 100' along Lupfer Road; leave strip of regen from 100'-150'± for visual barrier. Along open powerline road, retain sapling visual barrier where needed to ensure visual screening. - Machine scarify. - Plant WL/WWP mix 14'X14' WL, 30X30' WWP spacing.
2	11 acres 120 mbf	Shaded fuel-break/Seed Tree with Reserves	<ul style="list-style-type: none"> - Tractor harvest unit. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - An objective is to open up this 100' so more sunlight/wind reaches roadway, thereby helping dry the road out and improving road conditions. - Machine scarify. -Adjacent to open road: will require High Fuel Reduction with 90% of slash removed within 100' of road. - Natural regeneration.
3	20 acres 120 mbf	Improvement Cut/Commercial Thin	<ul style="list-style-type: none"> - Tractor harvest unit. - Thin from below, cutting 1/3 volume on average. Cut all SAF and GF, any ES that will be exposed to wind, and DF and WL with poor form. Leave WL, then DF 30' bole spacing on average. - 1 acre stand of sub-merchantable LPP along west boundary of unit will be thinned to 14-foot spacing. - Patch of ES east of ERZ will be left intact. - 2 ERZ's run north/south along east third of unit. - ERZ's for small wet areas marked in Orange and Black striped flagging. - 1,257 feet of Temp Road will be re-opened to access unit. - 2 old skid trails will be re-used. One is along the south boundary of the unit and ends at an old landing to the south of the unit. The other skid trail is in the northeast corner and goes to the road. - Fuels reduction project, so CWD may be in the 5-10 tons per acre. - Machine scarify. - Adjacent to BNSF ROW and private land. Will require High Fuel Reduction with 90% slash removed within 100' of the ROW and 100' of unit boundaries. - Natural regeneration.

4a	15 acres 45 mbf	Overstory Removal (13 acres) with WMZ and limited SMZ harvest.	<ul style="list-style-type: none"> - Tractor harvest unit. - In-woods processing encouraged, especially in WMZ in north of unit. - Protect sub-merchantable trees to the fullest extent practical. - SMZ, Class 2 and 3 east of unit. Possible limited SMZ harvest. - WMZ harvest in north of unit: focus on removing SAF, GF, ES, and older LPP, leaving WL and DF. Remove 80% of saw logs, leave 20%. - Protect all sub-merchantable trees and shrubs within 50' of the Wetland. - DF and WL preferred leave trees. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Natural regeneration.
4b	9 acres 36 mbf	Seed Tree With Reserves with Limited SMZ Harvest.	<ul style="list-style-type: none"> - Tractor harvest unit. - SMZ Class 2, 3, east of unit. - Limited SMZ harvest possible along east boundary. - Retain 6-10 seed-trees/wildlife trees per acre. - Leave DF > 21 inches DBH. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Machine scarify. - Adjacent to BNSF ROW: will require High Fuels Reduction with 90% slash removed within 100' of ROW. - Natural regeneration.
5a	6 acres 50 mbf	Clear cut with reserves with WMZ/SMZ harvest.	<ul style="list-style-type: none"> - Tractor harvest unit to WMZ. - SMZ Class 2 harvest up to 50% east side of unit. - WMZ harvest will focus on removing SAF, GF, ES, and older LPP, leaving WL and DF. Remove up to 80% of sawlogs, leave 20% or more. Protect all sub-merchantable trees and shrubs within 50' of the wetland. - Clear cut with reserves harvest to within 50' of wetland. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Machine scarify outside of WMZ. - Natural regeneration.

5b, c, d, e	5-12 acres each, 150 mbf total	Overstory removal with reserves with SMZ harvest.	<ul style="list-style-type: none"> - Tractor harvest. - Protect sub-merchantable trees to the fullest extent practical. In-woods processing encouraged. - SMZ harvest up to 50% in 5b, c, and e. - Harvest most overstory trees. - Harvest will result in 30-35% of trees taken out of original 93 acre stand area. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Natural regeneration.
6	36 acres 108 mbf	Overstory Removal with reserves.	<ul style="list-style-type: none"> - Tractor harvest unit. - Re-use existing skid trails. - Protect sub-merchantable trees to the fullest extent practical. In-woods processing encouraged. - SMZ's Class 2, 3 south of unit. No harvest in SMZ's. - Natural regeneration.
7	33 acres 99 mbf	Seed Tree with Reserves.	<ul style="list-style-type: none"> - Tractor harvest unit. - SMZ's Class 2 and 3 west of unit and in east of unit. No harvest in SMZ's. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Machine scarify. - Natural regeneration.
8	10 acres 30 mbf	Overstory Removal with Reserves.	<ul style="list-style-type: none"> - Tractor harvest unit. - Protect sub-merchantable trees to the fullest extent practical. In-woods processing encouraged. - Harvest most merchantable trees. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Natural regeneration.
9	6 acres Post & Pole	Clear cut with reserves.	<ul style="list-style-type: none"> - Tractor harvest unit. - Cut LPP, leave any sawtimber-sized WL and DF. - Leave all snags. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Machine scarify. - Unit is within 1000' of a residence; requires High Hazard Fuel Reduction with 90% slash removed to 100' of unit boundary. - Natural regeneration.

10	3 acres 9 mbf	Clear cut with reserves with WMZ harvest and limited harvest in visual screen area.	<ul style="list-style-type: none"> - Tractor harvest unit. - WMZ harvest along portion of southeast edge of unit. Leave some overstory trees, favoring WL and DF. - Limited harvest of merchantable trees in visual screen area. - Retain sub-merchantable trees up to 100' from the open road as needed for visual screening. - Clear cut harvest for salvage between visual screen and WMZ (1.5 acres). Cut all SAF, GF, ES LPP; leave WL and DF. - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - Machine scarify outside WMZ. - Unit is adjacent to an open road, will require High Hazard Fuel Reduction with 90% slash removed to 100' from road. - Plant WL 14' X 14' spacing.
11	12 acres 120 mbf	Seed tree with reserves	<ul style="list-style-type: none"> - Tractor harvest unit. - SMZ harvest up to 50% sawtimber on Class 2 along eastern edge of unit. - WMZ harvest in middle of eastern part of unit. Up to 80% of sawtimber removed, with 20% remaining. Remove SAF, GF, ES, LPP. Leave WL, DF, and LPP when necessary. - Leave seed trees 6-10 trees per acre (~70 to 100' spacing). - Remove merchantable trees within striking distance of BPA powerline. - Machine scarify outside WMZ and SMZ. - Fuels reduction project along private property. - Unit is within 1000' of a residence, which requires High Hazard Fuel Reduction with 90% slash removed within 100' of unit boundaries. - Natural regeneration.
12	4 acres 0 mbf	200' Fuel reduction/slashing	<ul style="list-style-type: none"> - Hand thinning and pruning/fuels reduction project. - Lop/prune and scatter by hand or create hand piles. - Slash sub-merchantable trees to about 20' spacing. Leave WL, then DF, LPP.
13	8 acres 25 mbf	Improvement cut/Commercial Thin	<ul style="list-style-type: none"> - Tractor harvest unit. - Protect vigorous sub-merchantable trees, especially DF and WL. In-woods processing encouraged. - Slash/trample lodgepole pine regeneration infected with western gall rust. - Thin north half of unit 30' bole spacing average. - Thin south half of unit to 30' spacing average (mostly WL and DF). - Harvest will result in 30-40% of sawtimber removed. - Leave all snags. - Machine scarify. - Fuels reduction near private property. - Unit is within 1000' of a residence and adjacent to an open road, requires High Hazard Fuel Reduction with 90% slash removed within 100' of road and for 100' inside unit boundary.

14	10 acres 30 mbf	Salvage/ Improvement Cut.	<ul style="list-style-type: none"> - Tractor harvest unit. - WMZ harvest proposed along northwest edge of unit. Salvage dead and dying SAF and GF, commercial thin from below other species as necessary. Will result in less than 50% volume removed, more than 50% left. - Salvage of dying SAF and GF, and Commercial Thin. Will result in less than 50% of volume removed, more than 50% left. - Salvage harvest in several small natural openings will result in 50% or less sawtimber left. - Leave sub-merchantable trees as visual screen along open road for wildlife. - Machine scarify. - Near private property and along open road; will require High Hazard Fuel Reduction with 90% slash removed within 100' of road. - Plant WL/WWP mix 14' X 14' WL, 30' X 30' WWP spacing.
15	2 acres 6 mbf	Salvage/Seed Tree with reserves (Shaded fuel-break)	<ul style="list-style-type: none"> -Tractor harvest unit. - WMZ harvest along eastern part of unit. Salvage dead and dying SAF and GF, harvest ES and other species as necessary. Harvest will only extend up to 100' from the road, and in places will only partially enter the 50' WMZ area. - Remove all SAF, GF, and ES as necessary. Retain 6-10 seedtrees/wildlife TPA (~75' spacing). - Leave 2 snags and 2 snag recruits per acre > 21" DBH or of the next largest size available (~100' spacing); additional recruits would be retained where snags are not available. - An objective is to open up this 100' so more sunlight/wind reaches roadway, thereby helping dry the road out and improving road conditions. - Slashing of stagnant sub-merchantable trees required. - Machine scarify outside WMZ. - Near private property and along open road, will require High Hazard Fuel Reduction with 90% slash removed within 100' of road. - Plant WL 14' X 14" spacing.

NOTES:

WWP= Western White Pine
SAF = Sub-Alpine Fir
ERZ = Equipment Restriction Zone
ES = Englemann Spruce
GF = Grand Fir
LPP= Lodgepole Pine

DF = Douglas-Fir
WL=Western Larch
BMP = Best Management Practices
DBH = Diameter at Breast Height
TPA = Trees Per Acre

RMZ = Riparian Management Zone
SMZ = Streamside Management Zone
WMZ= Wetland Management Zone
ERZ = Equipment Restriction Zone