Environmental Assessment Checklist

Project Name: Meadow Peak Timber Sale
Proposed Implementation Date: October 2019
Proponent: Kalispell Unit, Northwest Land Office, Montana DNRC
County: Flathead

Type and Purpose of Action

Description of Proposed Action:

The Kalispell Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Meadow Peak Timber Sale. The project is located approximately 14 miles west of Marion, Montana (refer to Attachments vicinity map A-**1** and project map A-**2**) and includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	**s. 16, T27N, R26W**	**640**	**317**
Public Buildings			
MSU 2nd Grant			
MSU Morrill			
Eastern College-MSU/Western College-U of M			
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Harvest approximately 3.0 MMBF of merchantable timber to generate revenue for the Common Schools trust and to contribute to the sustainable yield for the DNRC timber management program, as mandated by *State Statute 77-5-222 MCA.*
- Promote biodiversity by managing for appropriate stand structures and species compositions.
- Improve the growth and vigor through silvicultural treatments that increase stand vigor and reduce the amount of insect and disease infected trees.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	**14**
Shelterwood	**105**
Selection	**198**
Commercial Thinning	
Salvage	
Total Treatment Acres	**317**
Proposed Forest Improvement Treatment	# Acres
Pile and Scarify	**119**
Pile Burning	**317**
Weed Spraying	**25**
Proposed Road Activities	# Miles
New permanent road construction	**1.2**
New temporary road construction	
Road maintenance	**9.8**
Road reconstruction	**2.66**
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	2 years, 10 months
Implementation Period:	Jan. 2020 thru Oct. 2023

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 17, 2018
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: http://dnrc.mt.gov/public-interest/public-notices
  - Adjacent landowners, statewide scoping list, Kalispell Daily Interlake, user groups
- AGENCIES SCOPED:
  - MT DEQ, USFWS, MT FWP, Tribal Cultural Offices
- COMMENTS RECEIVED:
  - How many: 2 e-mail comments
  - Concerns: none
  - Results (how were concerns addressed): n/a

DNRC specialists were consulted, including: Archeologist: Patrick Rennie, Wildlife Biologist: Leah Breidinger, Hydrologist: Tony Nelson

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

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

(Conservation Easements, Army Corps of Engineers, road use permits, etc.)

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

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

- **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.

- **Montana Department of Fish, Wildlife and Parks (DFWP)-** A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include:
    - An existing wooden culvert will be removed, and the stream banks rehabilitated. This crossing is not part of the haul route.

ALTERNATIVES CONSIDERED:

No-Action Alternative:
No timber harvesting would occur. Small quantities of wood products would continue to be sold from some areas in the form of residential firewood and other types of permits.

Forest and plant succession would continue to be mainly influenced by the occurrence of natural events, such as insect and disease outbreaks, wind throw, or wildfire.

No road maintenance or road improvements would occur. Maintenance of existing roads would be limited to periods when the roads are being used for removal of forest products.

Action Alternative
Under the Action Alternative, DNRC would harvest approximately 3.0 million board feet from approximately 317 acres. Shelterwood and seed tree prescriptions would be applied to approximately 119 acres. The remaining area would be treated with old growth maintenance (individual tree selection,198 acres) prescriptions to retain old growth attributes while promoting the regeneration of western larch and western white pine. Forest health and vigor would be improved in all treated acres.

Timber would be harvested using tractor logging with conventional, mechanical or cut-to-length operations. The transportation plan would utilize 11 miles of existing road and 1.2 miles of new road construction.

Issues surrounding this proposed action have either been resolved or mitigated through project design or would be included as specific contractual requirements of 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:
Harvest history of the project area shows two major timber harvests. The first harvest occurred from 1939 thru 1945. Over 9 million board feet of timber was harvested consisting mainly of Engelman spruce and western white pine. Some western larch, ponderosa pine, and grand fir were harvested as well.

The second major harvest occurred in the early 1990's. This harvest removed 2.23 million board feet of merchantable timber. Engelman spruce and grand fir comprised most of the harvest volume. The current timber project will be re-entering some of the stands first harvested in the 1930 to 1945 harvest. The 1990's harvested stands contain sapling sized trees with little to no merchantable timber volume.

The stands within the sale area are multi-storied and well stocked in the upper canopy levels. Average stand age of upper canopy trees varies widely but is mostly 150 to 200 years. Dwarf mistletoe is prevalent and widespread in the western larch. It is causing poor vigor. There are scattered pockets of Douglas-fir and grand fir bark beetle infestations. The average sawlog volume per acre is approximately 18 MBF. There are about 180 merchantable trees per acre. Species composition is predominately Engelman spruce, grand fir, sub-alpine fir, grand fir, and western larch. Scattered large diameter western white pine and Douglas-fir are scattered throughout all harvest units. Radial growth has been very poor over the last 20 years.

No rare or endangered plants are present within the project area. There are approximately 198 acres of old growth contained within harvest units. Old-Growth maintenance treatments will occur across these acres which are typed as mixed conifer. These treatment prescriptions will maintain DNRC old growth criteria in the stand while reducing insect, disease and fire risks to the greatest extent practicable. Western larch and western white pine regeneration will be promoted in openings. Shelterwood prescriptions would be implemented on 105 acres and a seed tree harvest would occur in a 14-acre unit. Western white pine and western larch regeneration would be promoted in shelterwood and seed tree units. Post-harvest mechanical site preparation would prepare the site for natural regeneration. Ample seed trees would be left in shelterwood and seed tree units.

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														
Noxious Weeds		**X**				**X**				**X**			**yes**	**1**
Rare Plants	**X**				**X**				**X**					
Vegetative community	**X**				**X**				**X**					
Old Growth	**X**				**X**				**X**					
Action														
Noxious Weeds			**X**			**X**				**X**			**yes**	**1**
Rare Plants	**X**				**X**				**X**					
Vegetative community		**X**				**X**				**X**			**yes**	**1,2,3**
Old Growth		**X**				**X**				**X**			**yes**	**3**

Comments: 1. Timber harvest and associated road work may lead to an increase in the occurrence of noxious weeds.

Vegetation Mitigations: DNRC plans to complete herbicide treatments of noxious weeds on the state parcel and segments of the access roads on adjacent ownerships to control existing weed infestations. All equipment would be washed and inspected prior to start of work. All new roads would be reseeded to site adapted grass to reduce the threat of noxious weed spread. Project areas would be monitored for noxious weeds after harvest operations are complete and herbicide treatments may be applied if needed.

Comments: 2. Dwarf mistletoe infestations and stem decays are reducing forest health and vigor while also predisposing infected trees to bark beetle attacks.

Vegetation Mitigations: Silvicultural prescriptions would remove many mistletoe infected and disease infected trees. Overall forest health and vigor would improve.

Comments: 3 Timber harvest could reduce the amount and quality of old growth on the Kalispell Unit.

Vegetation Mitigations: The post treatment stands would continue to meet DNRC's criteria for old growth and would not affect the overall distribution of old growth on the Kalispell Unit. Maintenance treatments would promote patches of regeneration of seral species in order to maintain western white pine and western larch old growth across these areas. As older large diameter seral trees die they would be replaced by a new cohort of dominant seral species. Overall stand health and vigor would improve the odds that these stands would stay within DNRC old growth criteria for the greatest possible amount of time.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The proposed project area has approximately 2.7 miles of moderate standard existing road. Timber management has been conducted in the proposed project area since the 1940s, and the most recent timber sale in the project area was completed in 1993. Existing skid trails from the prior entry have ameliorated due to root penetration and frost action and impacts from past entries are no longer apparent. No existing sources of erosion or sediment delivery were identified during field reconnaissance.

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**	
Nutrient Cycling	**X**					**X**				**X**			**Y**	**S-2**
Slope Stability	**X**				**X**				**X**					

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Soil Productivity		X				X				X			Y	S-3

Comments:

S-1: Based on DNRC soil monitoring on similar soils with a similar harvest intensity, approximately 13% 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: Based on research by Graham, et. al. (1994), habitat types found in the project area should have 12-24 tons/acre of coarse woody debris for nutrient cycling. Currently, based on ocular estimates, portions of the proposed project may be below this level. Logging residue left on the ground as mitigation would have a positive effect on nutrient cycling and improve the project area over the current condition.

S-3: Soil productivity would be impacted by road construction and the use of ground-based machinery to yard timber. As stated in comment **S-1**, levels of ground disturbance are expected to be less than 15% with roads included, which is well below the range analyzed for in the EXPECTED FUTURE CONDITIONS section of the SFLMP, and well within the 20-percent impacted area established as a level of concern in the SFLMP (DNRC 1996). This level translates to a low risk of low direct, secondary and cumulative impacts to soil productivity.

Soil Mitigations:

- Operate ground-based equipment only during periods of dry, frozen or snow-covered conditions
- Space skid trails a minimum of 60 feet apart to minimize areas impacted by ground-based equipment
- Use existing skid trails if they are in suitable locations to minimize potential for cumulative impacts to soil physical disturbance
- Leave approximately 12-24 tons of woody material 3-inches in diameter or greater on the ground for nutrient cycling

WATER QUALITY AND QUANTITY:

Numerous class 1, 2 and 3 stream channels were identified in the proposed project area by DNRC personnel, including a DNRC hydrologist, in 2018 and 2019. Channels were found to be stable and not actively eroding.

Water Quality and Quantity Existing Conditions: Several stream crossing structures were identified where inadequate fill combined with likely debris blockages led to erosion of fill near inlets and along the top of the pipes. These sites are not a current source of sediment, being well vegetated and stable at the time of field review. In addition, a native wooden crossing structure was identified on a class 1 reach of stream in the northeast portion of the proposed project area. This site is not a current sediment source but has a high potential to fail and become a sediment source as the wood continues to decay.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality	**X**				**X**				**X**					
Water Quantity	**X**				**X**				**X**					
Action														
Water Quality		**X**				**X**				**X**			**Y**	**WQ-1**
Water Quantity		**X**				**X**				**X**			**Y**	**WQ-2**

Comments:

WQ-1: All requirements found in ARM 36.11.301-313, and ARM 36.11.421-427 would be implemented, where applicable. In addition, all applicable forest management BMPs would be implemented. These measures would minimize any potential risk of sediment delivery to a stream or draw and leave a low risk of direct, secondary or cumulative impacts to water quality.

WQ-2: There is a very low risk of any proposed activities leading to increases in water quantity sufficient to destabilize any project area stream channel due to the low intensity of the proposed harvest prescriptions.

Water Quality & Quantity Mitigations:

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

FISHERIES:

Fisheries Existing Conditions:

Two class 1 stream channels were identified in the proposed project area during field reconnaissance. No fish were identified in these stream systems, and the presence of fish is not known in this unnamed tributary to the Pleasant Valley Fisher River.

No-Action: No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

Action Alternative (see Fisheries table below):

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Sediment	**X**				**X**				**X**					
Flow Regimes	**X**				**X**				**X**					
Woody Debris	**X**				**X**				**X**					
Stream Shading	**X**				**X**				**X**					
Stream Temperature	**X**				**X**				**X**					
Connectivity	**X**				**X**				**X**					
Populations	**X**				**X**				**X**					
Action														
Sediment	**X**					**X**				**X**			**Y**	**F-1**
Flow Regimes	**X**				**X**				**X**					
Woody Debris	**X**					**X**				**X**			**Y**	**F-1**
Stream Shading		**X**				**X**				**X**			**Y**	**F-1**
Stream Temperature	**X**					**X**				**X**			**Y**	**F-1**
Connectivity	**X**				**X**				**X**					
Populations	**X**				**X**				**X**					

Comments:

F-1: All possible low impacts would be mitigated by following all applicable rules found in ARM 36.11.301-313. In addition, proposed new stream crossings would be designed and implemented only after consulting with a Montana Department of Fish, Wildlife and Parks fisheries biologist and obtaining a SPA-124 permit and any mitigation measures designed through that process.

Fisheries Mitigations:

- Implement all applicable rules found in ARM 36.11.301-313
- Implement all mitigation measures laid out by FWP fisheries biologist for proposed new stream crossings

References

Brown, J. K. 1974. *Handbook for Inventorying Downed Woody Material*. In: USDA and Forest Service (editors). Ogden, Utah: Intermountain Forest and Range Experiment Station.

DNRC, 2011. DNRC Compiled Soils Monitoring Report on Timber Harvest Projects. Missoula, MT.

DNRC, 1996. State Forest Land Management Plan. Montana Department of Natural Resources and Conservation. Missoula, MT.

Graham, R. T., A. E. Harvey, M. F. Jurgensen, T. B. Jain, J. R. Tonn and D. S. Page-Dumroese. 1994. Managing Coarse Woody Debris in Forests of the Rocky Mountains. USDA Forest Service Research Paper. INT-RP-447. 13 pp.

NRCS, 1998. MT634-Soil Survey of Kootenai National Forest Area, Montana and Idaho. United States Department of Agriculture Natural Resources Conservation Service.

NRCS, 2010. MT618 – Soil Survey of Flathead County Area and Part of Lincoln County, Montana. United States Department of Agriculture Natural Resources Conservation Service.

WILDLIFE:

Wildlife Existing Conditions: The Project Area is located west of Lost Prairie in the Salish Range and consists primarily of east and north facing slopes ranging from 3,900 to 5,600 feet in elevation. A mix of age classes are present with approximately 196 acres of young stands <40 years old (30% of Project Area) in the pole timber size class and the remaining 445 acres ranging from 100 years old to 200+ years old (70% of Project Area). Mature stands consist of western hemlock, grand fir, Douglas-fir with occasional large-dbh western white pine and western larch. The understory in the mature stands contains a few ferns, kinnikinnick, wood's rose, and false-huckleberry; but overall very few forbs and shrubs are present. The pole stands and small openings contain primarily young western larch trees as well as some patches of huckleberries. Pileated woodpeckers were observed in the Project Area and high densities of small mammals and snowshoe hares were observed, likely due in part to the high amounts of coarse woody debris. Bear and mountain lion sign was observed in the area as well. Cumulative effects analysis areas incorporate lands near the Project Area and include a 7,084-acre area for small animals like pileated woodpeckers and a 22,557-acre area for animals that travel across larger areas such as lynx. Additional information on cumulative effects analysis areas and analysis methods are available upon request.

No-Action: None of the proposed activities would occur. In the short-term, no changes to the amounts, quality, or spatial arrangement of mature forested habitat would occur. In the long-term and in the absence of natural disturbance, habitat availability would increase for species preferring mature connected forests 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 *(Ursus arctos)* Habitat: Recovery areas, security from human activity	**X**				**X**				**X**					
Canada lynx (*Felix lynx)* Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone		**X**				**X**				**X**			**Y**	**WI-1**
Sensitive Species														
Bald eagle *(Haliaeetus leucocephalus)* Habitat: Late-successional forest within 1 mile of open water	**X**				**X**				**X**					
Black-backed woodpecker *(Picoides arcticus)* Habitat: Mature to old burned or beetle-infested forest	**X**				**X**				**X**					
Coeur d'Alene salamander *(Plethodon idahoensis)* Habitat: Waterfall spray zones, talus near cascading streams	**X**				**X**				**X**					
Columbian sharp-tailed grouse *(Tympanuchus Phasianellus columbianus)*	**X**				**X**				**X**					

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Habitat: Grassland, shrubland, riparian, agriculture														
Common loon *(Gavia immer)* Habitat: Cold mountain lakes, nest in emergent vegetation	**X**				**X**				**X**					
Fisher *(Martes pennanti)* Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian		**X**				**X**				**X**			**Y**	**WI-2**
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest	**X**				**X**				**X**					
Gray Wolf *(Canis lupus)* Habitat: Ample big game populations, security from human activities		**X**				**X**			**X**				**Y**	**WI-3**
Harlequin duck *(Histrionicus histrionicus)* Habitat: White-water streams, boulder and cobble substrates	**X**				**X**				**X**					
Northern bog lemming *(Synaptomys borealis)* Habitat: Sphagnum meadows, bogs, fens with thick moss mats	**X**				**X**				**X**					
Peregrine falcon *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands	**X**				**X**				**X**					
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest		**X**				**X**				**X**			**Y**	**WI-4**
Townsend's big-eared bat *(Plecotus townsendii)*	**X**				**X**				**X**					

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Habitat: Caves, caverns, old mines														
Wolverine *(Gulo gulo)* Habitat: Alpine tundra and high-elevation boreal forests that maintain deep persistent snow into late spring	**X**				**X**				**X**					
Big Game Species														
Elk	**X**				**X**				**X**					
Whitetail	**X**				**X**				**X**					
Mule Deer	**X**				**X**				**X**					
Other														
Old-growth		**X**				**X**				**X**			**Y**	**WI-5**

Comments:

WI-1 Canada lynx – Approximately 317 acres (50% of existing habitat in the Project Area; 6% of existing habitat in the Large Cumulative Effects Analysis Area - CEAA) would be impacted by the proposed timber sale. Of these acres, 119 acres (19% of existing habitat in the Project Area) would be treated with a shelterwood or seed tree cut and most of these stands would not retain enough conifer canopy cover to continue providing suitable lynx habitat post-harvest. The remaining 198 acres (31% of existing habitat in the Project Area) would be treated with an old-growth maintenance treatment and would continue providing suitable lynx habitat, albeit at a reduced stand density. Old-growth maintenance treatments retain sufficient large trees and basal area to continue meeting old-growth definitions as per Green et al. (*1992*) as well as stand structural diversity while removing some shade-tolerant trees and creating small openings. Connectivity would be minimally impacted considering that only 119 acres of lynx habitat would be removed. Multiple large corridors >600 feet wide would remain throughout the Project Area; thus, travel would likely remain feasible for lynx should they use the Project Area. Snowshoe hares, the primary prey of lynx, were observed in the Project Area and their scat was common, particularly in the pole and sapling stands. To reduce adverse effects of the proposed harvest on lynx, habitat characteristics important to lynx and snowshoe hares would be retained. Dense patches of advanced regeneration would be retained within lynx winter forage habitat. Additionally, 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.

WI-2 Fisher - Approximately 182 acres of potential fisher habitat would be affected by the proposed activities (66% of fisher habitat available in the Project Area; 4% of habitat in the Large CEAA). Of these acres, 180 acres would be treated with an old-growth maintenance treatment and would continue providing suitable fisher habitat post-harvest. These treatments are designed to retain the stand's status as old-growth while removing some shade-tolerant trees, creating small ½ to 1-acre openings, and retaining high snag densities. Overall, these stands are anticipated to continue providing high-quality habitat post-harvest, although stand density would be reduced. The remaining 2 acres would be treated with a shelterwood

treatment and would not provide suitable habitat for fishers post-harvest. Riparian fisher habitat would not be impacted. Considering that no fisher habitat would be removed, connectivity across the parcel would remain high and travel to USFS lands with greater amounts of mature stands located to the southwest of the Project Area would remain feasible along riparian areas. To reduce 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*) and no snags would be removed from the old-growth maintenance harvest units. These snags are important habitat features that provide resting and denning sites for fishers. However, considering the lack of fisher observations in the area over the last 30 years (*MNHP 2019*) the likelihood of fishers using the Large CEAA is low.

WI-3 Gray wolves - 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-4 Pileated woodpeckers - The proposed activities would affect 283 acres of suitable pileated woodpecker habitat (72% of habitat available in the Project Area; 18% of habitat in the Medium CEAA). Of these acres, 98 acres (25% of habitat available in the Project Area) would be treated with a shelterwood cut reducing mature canopy cover from 40-70% to 25-35% and causing these stands to become unsuitable for pileated woodpecker use post-harvest. The remaining 185 acres (47% of habitat available in the Project Area) would be treated with an old-growth maintenance treatment and would remain suitable for pileated woodpeckers post-harvest. All snags would be retained in old-growth maintenance cuts, but fewer snags would be standing for nesting and foraging considering that some of them would be knocked over by equipment or cut for safety reasons. To reduce potential adverse effects on pileated woodpeckers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (*ARM 36.11.411*).

WI-5 Old-growth - The proposed activities would affect 199 acres of old-growth. These stands would be treated with an old-growth maintenance treatment which would remove some shade-tolerant trees, create canopy gaps, and retain sufficient densities of large-dbh trees to continue meeting old-growth minimum criteria (*Green et al. 1992*). No old-growth would be removed, but habitat quality would be reduced for wildlife preferring dense old-growth stands such as golden-crowned kinglets (*Vanderwel et al. 2007*). To reduce adverse impacts on wildlife associated with old-growth all snags would be retained in old-growth maintenance treatment units and any snags cut for safety purposes would be left in the harvest unit.

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)*.
- 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 the legacy western larch. All snags must be retained in old-growth maintenance units. If snags are cut for safety concerns, they must be left in the harvest unit.

- Retain coarse-woody as per DNRC Forest Management Rules according to habitat type and emphasize retention of 15-inch diameter downed logs aiming for at least one 20-foot-long section per acre.

Literature:

Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992 Old-growth forest types of the northern region (errata corrected 02/05, 12/07, 10/08, 12/11). USDA Forest Service, Northern Region. Report R-1 SES.

MNHP. 2019. Montana natural heritage program map viewer. Montana Natural Heritage Program. Retrieved on August 22, 2019, from http://mtnhp.org/MapViewer.

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

Vanderwel, M. C., J. R. Malcolm, and S. C. Mills. 2007. A meta-analysis of bird responses to uniform partial harvesting across North America. Conservation Biology 21:1230-1240.

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**				**n/a**	
Dust	**X**				**X**				**X**				**n/a**	
Action														
Smoke		**X**				**X**				**X**			**yes**	**1**
Dust		**X**				**X**				**X**			**yes**	**1**

Comments: 1. Smoke will be created from pile burning and dust may be created from log hauling operations.

Air Quality Mitigations: Burning would occur on days approved by the Montana/Idaho Airshed group and DEQ. Conduct test burn to verify good dispersal. DNRC may implement measures to mitigate dust created from hauling operations. These mitigations include but are limited to the following: slow driving speeds, restricted haul period, application of dust abatement on road surfaces, required winter harvest.

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														

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		
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**			**yes**	**1**
Aesthetics	**X**				**X**				**X**					
Demands on Environmental Resources of Land, Water, or Energy	**X** **X**				**X**				**X**					

Comments: Timber harvest activity and associated road work could disturb archaeological resources.

Archaeological Mitigations: All THPO offices throughout the state have been notified of this project. Currently, the DNRC has no record of cultural resources in the area of potential effect, and other THPOs have not identified tribal cultural resources there. No state-owned Heritage Property will be affected by the proposed timber harvest. If an unanticipated cultural resource is discovered, all project related activities will cease until the resource can be adequately evaluated.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: *List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

- N/A

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	**X**				**X**				**X**				**n/a**	

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		
Safety														
Industrial, Commercial and Agricultural Activities and Production	**X**				**X**				**X**				**n/a**	
Quantity and Distribution of Employment	**X**				**X**				**X**				**n/a**	
Local Tax Base and Tax Revenues	**X**				**X**				**X**				**n/a**	
Demand for Government Services	**X**				**X**				**X**				**n/a**	
Access To and Quality of Recreational and Wilderness Activities	**x**				**X**				**X**				**n/a**	
Density and Distribution of population and housing	**X**				**X**				**X**				**n/a**	
Social Structures and Mores	**X**				**X**				**X**				**n/a**	
Cultural Uniqueness and Diversity	**X**				**X**				**X**				**n/a**	
Action	**X**				**X**				**X**				**n/a**	
Health and Human Safety	**X**				**X**				**X**				**n/a**	
Industrial, Commercial and Agricultural Activities and Production	**X**				**X**				**X**				**n/a**	
Quantity and Distribution of Employment	**X**				**X**				**X**				**n/a**	
Local Tax Base and Tax Revenues	**X**				**X**				**X**				**n/a**	
Demand for Government Services	**X**				**X**				**X**				**n/a**	
Access To and Quality of Recreational and Wilderness Activities	**X**				**X**				**X**				**n/a**	
Density and Distribution of population and housing	**X**				**X**				**X**				**n/a**	
Social Structures and Mores	**X**				**X**				**X**				**n/a**	
Cultural Uniqueness and Diversity	**X**				**X**				**X**				**n/a**	

Comments: The proposed action will have no direct, indirect, or cumulative impacts.

Mitigations: n/a

Locally Adopted Environmental Plans and Goals: *List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.*

- N/A

Other Appropriate Social and Economic Circumstances:
Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

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

Action: The timber harvest would generate additional revenue for the Common School Trust. The estimated return to the trust for the proposed harvest is $632,520.00 based on an estimated harvest of 3.4 million board feet (21,084 tons) and an overall stumpage value of $30.00 per ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

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

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

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?
No

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

Environmental Assessment Checklist Prepared By:

Name: Pete Seigmund
Title: Forest Management Supervisor, Kalispell Unit
Date: September 25, 2019

Finding

Alternative Selected
Action Alternative

Significance of Potential Impacts
No significant impacts are expected with the selection of the action alternative. The harvest and removal of dead, dying and disease infected trees will enhance the overall health of the forest. The proposed treatments would create the opportunity for the stands to grow more vigorous and will help the stands be more resistant to future infestations of insect and disease. The project area is classified for timber management and the action alternative is appropriate within this classification. It is expected that the treatment of the Old Growth stands with a maintenance harvest will help these stands maintain their determinate old growth qualities for a longer period of time. There are no unique resources or habitats associated with the project area which would indicate anything but short term or minor impacts occurring as a result of the harvest actions and the timing of those actions. Appropriate mitigation within the action alternative has been implemented for Wildlife, Soils, Vegetation, Water and other concerns.

Need for Further Environmental Analysis

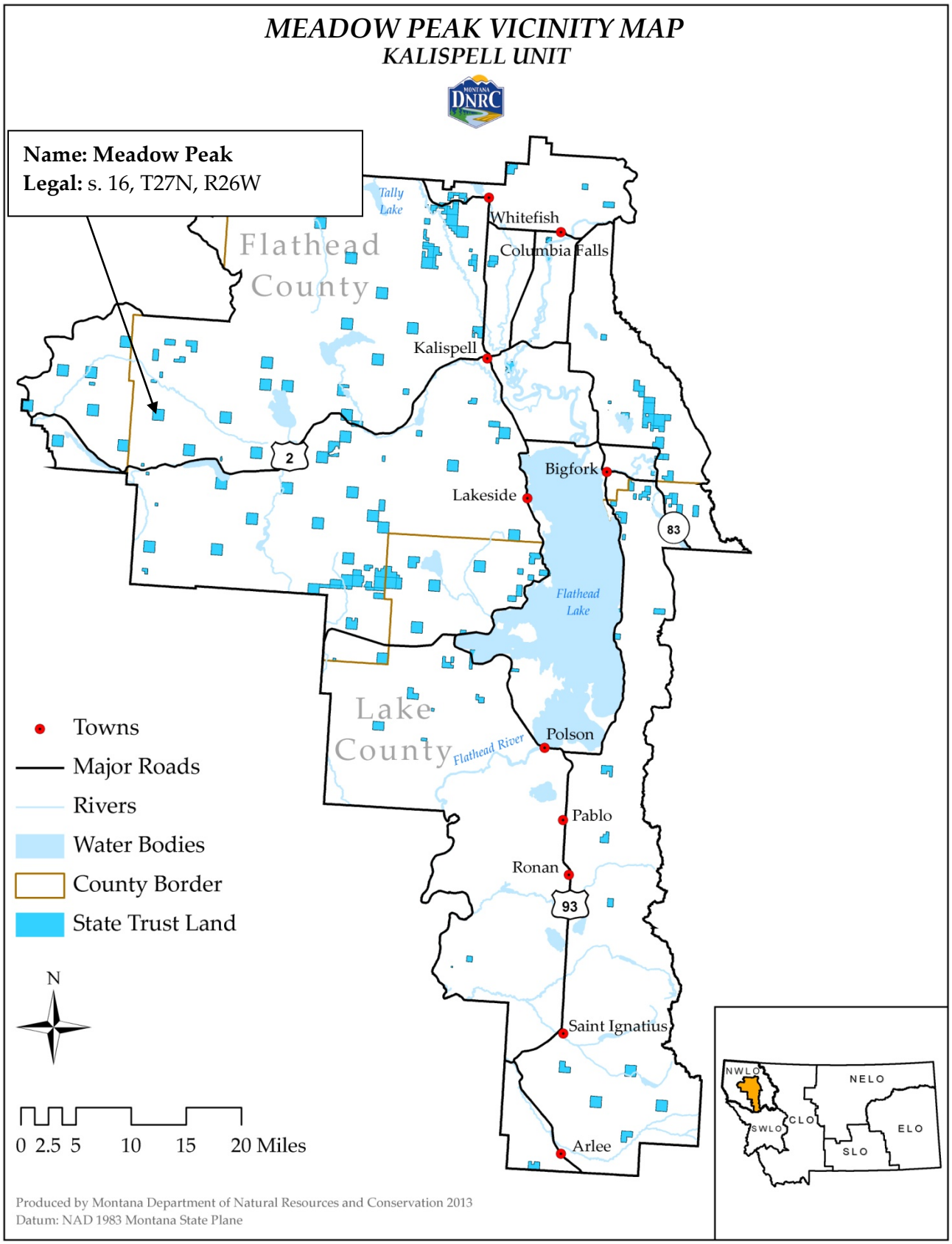
[ ]	EIS	[ ]	More Detailed EA	[X]	No Further Analysis

Environmental Assessment Checklist Approved By:

Name: David M. Poukish
Title: Unit Manager, Kalispell Unit
Date: September 25, 2019
Signature: /s/ David M. Poukish

Attachment A- Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units