Environmental Assessment Checklist

Project Name: Brown's Ranch Timber Sale
Proposed Implementation Date: May 2023
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 Brown's Ranch Timber Sale. The project is located 13 miles south 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	Section 16, T25N R23W Section 36, T25N R24W	**1,253.5**	**744**
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:

- Promote the growth of a healthy forest and return to historic conditions.
- Generate revenue for the Common Schools Trust.
- Sanitize the stand of dwarf mistletoe.
- Fuel reduction/ promote wildfire resiliency.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	
Shelterwood	
Selection	
Old Growth Maintenance/Restoration	
Commercial Thinning	577
Salvage	
Overstory Removal	167
Total Treatment Acres	**744**
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	
Planting	
Proposed Road Activities	# Miles
New permanent road construction	
New temporary road construction	
Road maintenance	11.7
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	2 years
Implementation Period:	May, 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:
  - August 8, 2022
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: http://dnrc.mt.gov/public-interest/public-notices
  - Letters and emails were sent to those on the statewide scoping list and adjacent landowners.
- AGENCIES SCOPED:
  - Montana Department of Fish, Wildlife, and Parks (MT FWP), statewide tribal agencies, Flathead County Solid Waste Department, and internal DNRC staff.
- COMMENTS RECEIVED:
  - How many: 2
  - Concerns: MT FWP expressed concern regarding impacts to deer and elk winter range and loss of habitat security due to road construction. Specifically, they emphasized the importance of thermal cover for the winter range. The DNRC received a letter in support of the timber sale from the local Weyerhaeuser lumber mill. This letter emphasized the importance of forest management on overall forest health and production of forest products.
  - Results: MT FWP acknowledged that the DNRC would follow our Department's Forest Management Rules and our Habitat Conservation Plan. The DNRC agreed to continue communication throughout the project development.

DNRC specialists were consulted, including:
Jeff Schmalenberg, Hydrologist
Patrick Rennie, Archaeologist
Victoria Forristal, Wildlife Biologist

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

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

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

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

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

ALTERNATIVES CONSIDERED:

No-Action Alternative: No harvest operations would take place. Nature would shape future forest conditions through events such as insect and disease outbreaks, windthrow, and wildfires. No road maintenance or improvements would occur on state owned property.

Action Alternative 577 acres would receive a commercial thin, and 167 acres would be prescribed an overstory removal (OSR) in a seed tree unit that was harvested in 1997. Regeneration is well established in the understory of the OSR unit. Forest health and vigor would be improved in all treated acres, and fuel loading would be reduced. Timber would be harvested using traditional ground-based logging systems. The transportation plan would utilize the existing road system.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Vegetation Existing Conditions:

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Moderately warm and dry (westside)	Low-to-mixed	Western Larch/ Douglas Fir/ Ponderosa Pine	100-149	Ponderosa Pine	Commercial Thinning	247
2	Moderately warm and dry (westside)	Low-to-mixed	Mixed Conifer	100-149	Ponderosa Pine	Commercial Thinning	37
3	Moderately warm and dry (westside)	Low-to-mixed	Western Larch/Douglas Fir	100-149	Ponderosa Pine	Commercial Thinning	124
4	Moderately warm and dry (westside)	Low-to-mixed	Western Larch/Douglas Fir /Ponderosa Pine	100-149	Ponderosa Pine	Overstory Removal	167
5	Moderately warm and dry (westside)	Low-to-mixed	Ponderosa Pine/Douglas-Fir	40-99	Ponderosa Pine	Commercial Thinning	169

Fire Hazard/Fuels: Harvest prescriptions will reduce the potential for crown fires in commercial thin units. The OSR unit will leave approximately 4 trees per acre. Adequate regeneration is present in the understory.

Insects and Diseases: Dwarf mistletoe is present in Douglas-fir and western larch trees.

Sensitive/Rare Plants: None have been identified or documented.

Noxious Weeds: Houndstongue, spotted knapweed, St. Johnswort, sulfur cinquefoil and Canada thistle have been identified in the project area.

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

Comments:
V-1: No action would result in zero fuel reduction, potentially increasing the severity factor if a wildfire were to occur in the landscape.

V-2: Not removing trees currently infected with insects or diseases will cause the infection to spread to uninfected trees as well as regeneration. This may lead to a decrease in health and vigor in the stand. Removal of infected trees will mitigate this spread.

V-3: Overstory removal prescriptions would produce an even age class and promotion/establishment of regeneration will be consistent throughout the entire project.

V-4: Reducing fuel loading has potential to lessen the severity and increase resiliency in the case of a wildfire event.

V-5: Noxious weeds tend to thrive in disturbed landscapes. Machinery may also aid in seed dispersal.

Vegetation Mitigations:
Prescribed treatments would thin overstory trees and reduce the potential for severe, crown fires. Dwarf mistletoe infected and other diseased trees would be removed which would improve the health and vigor of the residual stand.

The DNRC plans to complete herbicide treatments of noxious weeds in the project area for several years after harvest operations are completed. This will help control existing and any potential new occurrences of weeds. All equipment would be cleaned and inspected prior to the start of work.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The primary soil map units within the project area proposed for management are the Combest gravelly loam, Lozeau gravelly loam and the Pashua-Pausha complex which is a deep colluvium weather from a welded tuff. These soils are predominately gravelly silt-loams of moderate productivity. Erosion and displacement potential is moderate while compaction hazard is low when dry but is easily compacted when soil moisture is elevated. Localized areas of mine tailings have not revegetated as are a chronic source of erosion albeit not effecting site productivity. No other erosion was observed in the project area.

Existing soil disturbance from forest management and historic mineral exploration was estimated at 15 percent of the project area. This includes previous skid trails, existing roads and reclaimed roads. While much of the disturbance from forest management activities has mostly ameliorated, skids trails are properly located and should be reused for project activities. No slope instabilities were observed.

Organic soil layers were intact, functional and providing nutrient cycling processes to forest stands. Coarse and fine woody debris was estimated at 5-15 tons per acre showing a wide range of decomposition.

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			N/A	
Erosion		x				x				x			N/A	
Nutrient Cycling		x				x				x			N/A	
Slope Stability	x				x				x				N/A	
Soil Productivity		x				x					x		N/A	
Action														
Physical Disturbance (Compaction and Displacement)		x				x					x		Y	1
Erosion		x				x				x			Y	1
Nutrient Cycling		x				x							Y	2
Slope Stability	x				x				x				N/A	
Soil Productivity		x				x					x		Y	2

Comments:

1. Soil displacement and compaction will be limited to 20% of all harvest units if mitigations and operating conditions are implemented adequately. Standard erosion control measures will provide effective erosion prevention.

2. 10-15 tons of coarse woody material per acre (>3.0") with as many fines (<3.0") will be retained on site to retain nutrients critical for soil productivity. Two snags and 2 snag recruitment trees will be retained per acre.

Soil Mitigations:

1. Limit equipment operations to periods when soils are relatively dry, (less than 20 percent oven-dried weight), frozen, or snow-covered in order to minimize soil compaction and rutting and maintain drainage features. Check soil moisture conditions prior to equipment start-up.

2. 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.

3. Tractor skidding should be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive displacement or erosion. Based on site review, short, steep slopes may require a combination of mitigation measures, such as adverse skidding to a ridge or winchline, and skidding from more moderate slopes of less than 40 percent.

4. Keep skid trails to 20 percent or less of the harvest unit acreage. Provide for drainage in skid trails and roads concurrently with operations.

5. 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 lopping and scattering or jackpot burning on the steeper slopes. Consider disturbance incurred during skidding operations to, at least, partially provide scarification for regeneration.

6. Retain 10-15 tons per acre of large woody debris and a feasible majority of all fine litter following harvesting operations. On units where whole tree harvesting is used, implement one of the following mitigations for nutrient cycling: 1) use in-woods processing equipment that leaves slash on site; 2) for whole-tree harvesting, return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions: The project area resides in two distinct 6th code watersheds: Upper Bitterroot River – Spring Creek and Cromwell Creek. The Little Bitterroot River is the receiving water of these two watersheds. No fisheries are supported on

State lands in the project area or immediately downstream. As a result, all fisheries issues will be dismissed from further analysis.

Both project areas contain discontinuous segments of Class 1, perennial stream segments. Both watersheds are approximately 50 percent forested, predominately tribal and privately owned, receive approximately 18-20 inches of precipitation annually, have low to moderate road densities with primary land use being grazing and agricultural.

Both watersheds are classified as B-1. Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

One existing road-stream crossing structure exist in the project area that will require minor maintenance to meet Best Management Practices. Existing roads in the project area currently meet BMP's and are not a source of sediment to any stream in the project area. Some road segments are within 300 feet of a stream, but adequate filtration through stream buffers are effectively minimizing road surface drainage travel distances with no observed sediment delivery.

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**			**N**	**1**
Water Quantity	**x**				**x**				**x**				**N/A**	
Action														
Water Quality		**x**				**x**				**x**			**Y**	**2**
Water Quantity	**x**				**x**				**x**				**N/A**	**3**

Comments:
1: Livestock grazing would continue to occur under the existing grazing license. Streambank hoof shear and stream channel disturbance would occur at existing levels and would continue to occur at existing levels regardless of selection of the No Action or Action Alternative.

2: Due to harvest systems utilized, location and size of harvest units relative to stream channels, implementation of Forest Management BMPs and the low precipitation levels observed in the project area, and project area surface water hydrologically disconnected from downstream waters supporting beneficial uses, there is a low risk of additional direct water quality impacts for the proposed actions. Considering these impacts in combination with past and current activities, the proposed action is not likely to elevate cumulative watershed effect beyond the existing condition.

3. Forest stands are not likely to be a major influence on the hydrology and flow regimes of streams in the project area. Anticipated harvest levels would manage approximately 2 percent of the forested acres in both project area watersheds. This level of harvest, in concert with implementing BMP and streamside buffers, is not expected to result in measurable effects on the timing, magnitude, or duration of peak flows in disconnected downstream receiving waters.

Water Quality & Quantity Mitigations:

- Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
- Implementation of Montana Administrative Rules for Forest Management and Streamside Management Zones.
- Implementation of Montana DNRCs Habitat Conservation Plan commitments for Riparian Management Zones and Sediment Delivery.

WILDLIFE:

Wildlife Existing Conditions: The 1,254-acre Project Area contains of variety of habitat conditions for native wildlife species, ranging from open grasslands to closed-canopy mature forest. The two DNRC-managed parcels that constitute the Project Area are not included in DNRC's Habitat Conservation Plan (HCP) (*USFWS and DNRC 2010*). The Project Area is surrounded by private lands and Confederated Salish and Kootenai Tribal (CSKT) lands. Public motorized use is restricted on all of the approximately 8.4 miles of existing roads that occur within the Project Area. The Project Area sits on a major vegetation transition zone where montane coniferous forest habitat changes to dry grassland and sage-steppe habitat to the south. The Project Area contains approximately 454 acres of mature forest (trees ≥9" dbh with ≥40% canopy closure). Mature forest in Section 16 occurs in a large contiguous patch whereas mature forest in Section 36 occurs in several smaller patches. Approximately 567 acres of more open forest containing scattered large trees, but lower canopy closure are present on drier, south-facing slopes and in some previously harvested areas. Disease is reducing host-tree vigor within some mature forest stands. There are 25 acres of sapling to pole-sized conifer regeneration in a previously harvested area. Within the Project Area are 209 unforested acres which primarily occur in large grassland patches in Section 36. Overall, habitat conditions within the Project Area are adequate to support a variety of native wildlife species. Cumulative effects analysis areas (hereafter CEAAs) consist of lands near the Project Area and include a 11,502-acre area for smaller-ranged animals like pileated woodpeckers and a 49,584-acre area for animals that travel across larger areas such as grizzly bears and big game. Additional information on CEAAs 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 forested habitat would occur. In the long-term, habitat suitability for mature forest-associated species would likely remain similar or decrease (due to disease or wildfire) compared to current conditions. Overall, in the absence of other natural disturbance, current wildlife habitat conditions would be expected to persist under the No-Action Alternative.

Action Alternative (see Wildlife table below):

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

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Fisher *(Martes pennanti)* Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian		**X**				**X**				**X**			**Y**	**WI-3**
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest		**X**				**X**				**X**			**Y**	**WI-4**
Peregrine falcon *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands	**X**				**X**				**X**					**WI-2**
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest			**X**				**X**				**X**		**Y**	**WI-5**
Fringed myotis (*Myotis thysanodes*) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines		**X**				**X**				**X**			**N**	**WI-6**
Hoary bat (*Lasiurus cinereus*) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges		**X**				**X**				**X**			**Y**	**WI-7**
Townsend's big-eared bat *(Plecotus townsendii)*		**X**				**X**				**X**			**N**	**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		
Habitat: Caves, caverns, old mines														
Big Game Species														
Elk		X				X				X			Y	WI-9
Whitetail			X				X			X			Y	WI-9
Moose		X				X				X			Y	WI-9
Mule Deer		X				X				X			Y	WI-9
Other														
Mature Forest		X				X				X			N	WI-10
Red-tailed Hawk		X				X				X			Y	WI-11

Comments:

WI-1. Grizzly Bear – The Project Area is not in a recovery zone and is over 20 miles from non-recovery occupied habitat (Wittinger 2002). While the occasional presence of a grizzly bear in the Project Area is possible, especially given recent bear activity documented within the Salish Range, appreciable use by grizzly bears would not be expected due to the absence of preferred habitat, low grizzly bear densities and distance from occupied grizzly bear habitat. As grizzly bears continue to expand their range outside of recovery zones, bears could occasionally travel and forage through the parcel during their long-range movements. Should any bears be in the area, they could be temporarily displaced by the proposed activities. Disturbance caused by harvesting activities would be additive to other human activities occurring in the surrounding Large CEAA. The greatest risks to bears within the Large CEAA would be conflicts with grazing livestock or attractants that bring bears into conflict with people. Mitigations included under the Action Alternative would require contractors to manage potential attractants to minimize conflicts.

WI-2. This species was evaluated and it was determined that the Project Area lies outside of the normal distribution for the species, and/or suitable habitat was not found to be present.

WI-3. Fisher – Approximately 146 acres of suitable fisher habitat would be affected by the proposed activities (95.6% of fisher habitat in the Project Area). Approximately 4 acres (2.6% of suitable fisher habitat) would be converted to temporary non-suitable habitat post-harvest due to low amounts of remaining mature conifer cover. Harvest prescriptions on 142 acres would reduce habitat quality but retain sufficient large trees and crown closure to provide suitable fisher travel and foraging habitat post-harvest. Mature forest along several riparian areas continue to provide potential travel corridors in the Project Area. Across the broader area (CEAA), connectivity would not substantially change as existing suitable fisher habitat is largely absent from adjacent private lands due to interspersed unsuitable habitat and past forest management. Mature forest cover along streams would offer limited connectivity outside the Project Area. To reduce potential adverse effects on fisher habitat, 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. Proposed harvest would remove 1.0% of available fisher habitat leaving approximately 3.3% of lands in the Small CEAA as suitable habitat. Should any fishers be present within the Small CEAA, habitat alteration and potential disturbance would be additive

to any activities occurring or planned on surrounding lands, including recent forest management on private lands. Considering the low availability of suitable habitat in the surrounding area, lack of any fisher observations within the Large CEAA (MNHP 2022), and prevalence of unsuitable habitat types, the likelihood of fishers using the Project Area or CEAA and being impacted by the Proposed Action is low.

WI-4. Flammulated Owls – Approximately 840 acres of suitable flammulated owl cover types are present within the Project Area. However, 93 acres of this potential habitat are not currently suitable for use by flammulated owls due to dense forest conditions not preferred by owls. Under the Action Alternative, approximately 643 acres (76.5% of flammulated cover types) of potential habitat would be harvested. Overstory removal harvest would convert 161 acres of flammulated owl cover types to temporarily unsuitable habitat. Commercial thinning on 482 acres would maintain or improve habitat suitability for flammulated owls by creating more open forest conditions and retaining larger, seral tree species such as ponderosa pine. To maintain potential nesting structures, at least 2 large snags per acre (>21 inches dbh, or largest size class available) would be retained (*ARM 36.11.411*). Outside of the Project Area within the 11,502-acre Small CEAA, open forest stands are limited (310 acres) and patchy due large unforested areas and previous harvesting on private lands where large snags and live trees needed by owls may be absent due to differing forest management practices. Suitable flammulated owl habitat in the Small CEAA would change from 9.2% to 8.4% after harvest.

WI-5. Pileated Woodpecker – The proposed activities would affect 304 acres of suitable pileated woodpecker habitat (83.8% of habitat available in the Project Area). Of these acres, 48 acres (13.3% of habitat available in the Project Area) would be treated with overstory removal, causing these stands to become unsuitable for nesting pileated woodpeckers post-harvest. The remaining 256 acres would undergo commercial thinning and would likely remain suitable for pileated woodpeckers post-harvest, although fewer large trees and snags would be available for nesting and foraging. In these units, larger, healthy seral tree species would be retained. Combined with an additional 145 acres of mature forest available for foraging, the Project Area could continue to support breeding pileated woodpeckers. To reduce potential adverse effects on pileated woodpeckers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and all snags cut for safety reasons would be left in the harvest unit (*ARM 36.11.411*). Additionally, 12 to 15 tons/acre of coarse woody debris would be retained in accordance with DNRC Forest Management Rules (*ARM 36.11.414)* and retention of downed logs ≥15 inch diameter would be emphasized. Habitat availability within most of the Small CEAA is limited (5.2% of the CEAA) due to past timber harvesting and unforested habitat. In surrounding non-DNRC lands of the CEAA, suitable pileated woodpecker habitat is comprised of small, scattered patches. Proposed harvesting would affect approximately 51.0% of suitable habitat within the CEAA, of which 8.0% would be removed. Habitat alterations due to the proposed action would be additive to recent forest management projects on adjacent private lands within the Small CEAA.

WI-6. Fringed myotis – Parcels in the Small CEAA directly adjacent to the Project Area may contain old mines and remnants of mining infrastructure that could potentially serve as roost sites. Roosting bats (should they be present) could be temporarily disturbed by equipment operating in close proximity to these sites. Disturbance would be temporary and there would be no direct impact to these potential roost sites, therefore low impacts to fringed myotis would be anticipated.

WI-7. Hoary bat – The proposed activities would affect approximately 744 acres of potential hoary bat habitat. Hoary bats utilize both forested and open habitats and are considered

common and widespread throughout Montana. Typically, hoary bats are solitary and roost among the foliage of trees during the day (Bachen et al 2020). If present, roosting bats could be temporarily displaced during timber harvesting. Potential disturbance would only be expected from late May through September, when hoary bats are in Montana. At least 2 large snags and 2 large snag recruitment (live) trees per acre (>21 inches dbh, or largest size class available) would be retained and could provide roosting habitat. After the conclusion of activities, continued use of harvested areas for foraging and roosting would be anticipated, thus low impacts to hoary bats would be expected.

WI-8. Townsend's big-eared bat– Parcels in the Small CEAA directly adjacent to the Project Area contain old mines that could potentially serve as roost sites. Roosting bats (should they be present) could be temporarily disturbed by equipment operating in close proximity to these sites. Disturbance would be temporary and roost sites would not be directly impacted by harvest activities, therefore low impacts to Townsend's big-eared bat would be anticipated.

WI-9. Big Game

Winter Range – The entire 1,254-acre Project Area is considered winter range for white-tailed deer, moose, and elk. The southern portion of section 36 and the Large CEAA south of the CSKT boundary and has not been mapped for winter range by Montana Fish, Wildlife and Parks (DFWP). Based on habitat characteristics similar to the area mapped by DFWP (*DFWP 2008*), the 520 unmapped acres of section 36 are included as winter range for white-tailed deer, moose, and elk. There are approximately 635 acres of mule deer winter range in the Project Area. In the project area, the proposed activities would reduce thermal cover quality on 22 acres of thermal cover/snow intercept (52.0% of high thermal cover available in the Project Area) and 516 acres of marginal thermal cover (83.0% acres of marginal thermal cover available in the Project Area). Of these proposed treatments, overstory removal harvest on 15 acres of high-quality thermal cover/snow intercept and 52 acres of marginal thermal cover will result in low to no thermal cover. Commercial thinning on 7 acres of high-quality thermal cover/snow intercept and 464 acres of marginal thermal cover would retain approximately 70 mature trees per acre with an overstory canopy cover of 40-60%. Thus, marginal thermal cover would persist post-harvest on these acres. Canopy cover of 40-60% likely provides effective thermal cover and snow intercept in the lower elevations, snow loads, and southern slope aspects characteristic of the Project Area. Retaining healthy sub-merchantable trees and saplings where present would provide additional cover and increase thermal cover/snow intercept. Treated stands should also exhibit better health and growth that would result in improved thermal cover over time. The Project Area would still be able to support ungulate use during the winter, but the capacity of this habitat would be lowered due to reductions in thermal cover quality. Connectivity to potential thermal cover on adjacent private lands would be maintained where present, although little exists on adjacent private lands. Reductions to thermal cover quality under the Action Alternative would be additive to past harvesting in the Project Area and Large CEAA.

Big Game Hiding Cover and Security – The proposed harvest would affect 627 acres of hiding cover (81.8% of hiding cover available in the Project Area). Of these, 107 acres would be treated with overstory removal harvest. Sufficient hiding cover would be maintained where it currently exists. Another 520 acres would be treated with harvest prescriptions that would reduce trees and some screening vegetation but still provide hiding cover, especially when combined with retained patches of sub-merchantable trees and shrubs. Motorized activities associated with the Action Alternative could temporarily disturb and displace big game for up to three years. Under the proposed Action, approximately 6.9 miles of existing restricted road in the Project Area will be used during harvest activities. At the conclusion of activities these roads will remain restricted. Access to this parcel is through surrounding private land on which gates

are maintained by a private landowner. Since hiding cover would not be removed, and roads would remain closed to motorized public access, direct and secondary impacts to big game cover/security would minimal. Hiding cover removal/alteration and disturbance under the proposed Action would be additive to other forest management/development activities within the Large CEAA. Hiding cover within the Large CEAA would be expected to increase as harvested stands continue to regenerate and grow. Substantial changes in big game abundance or overall use of the Large CEAA by big game would not be anticipated under the Action Alternative.

WI-10. Mature Forest – The proposed action would affect approximately 399 acres of mature forest (88.0% of mature forest within the Project Area). Approximately 2 acres of mature forest would be removed by harvesting. Commercial thinning prescriptions on 397 acres of mature forest would reduce tree density but would maintain sufficient large trees and crown closure to continue providing habitat for species preferring moderately dense forest conditions. Connectivity of mature forest would be retained within the Project Area where it exists, and limited connectivity with adjacent mature forests on private lands within the Small CEAA would be maintained. Mature forest abundance would remain low (6.0% of the Small CEAA) and moderately connected through the Small CEAA. Mature forest within the Small CEAA is in low abundance due to 2,756 unforested acres (24.0% of Small CEAA), open forest types on dry south-facing slopes, and extensive timber harvesting on surrounding private lands within the last 40 years. Changes under the proposed Action would be additive to the harvest activities at the broader spatial scale.

WI-11. Red-tailed Hawk – An active red-tailed hawk nest was discovered within a proposed harvest unit in 2022. Harvest operations would be prohibited within ¼ mile of the nest site from April 1 to August 15 (if the nest is found to be active each breeding season). A no-harvest buffer of 100 feet will be left around the nest tree. With these mitigations, the risk of disturbance to breeding red-tailed hawk would be considered low. Red-tailed hawks forage in open forests and non-forested areas, therefore commercial thinning could improve foraging habitat. Continued use of the Project Area and current territory by red-tailed hawks would be expected during and after harvest.

Wildlife Mitigations:

- If a threatened or endangered species is encountered, consult a DNRC biologist immediately. Similarly, if undocumented nesting raptors or wolf dens are encountered within ½ mile of the Project Area, contact a DNRC biologist.
- Contractors will adhere to food storage and sanitation requirements as described in the timber sale contract. Ensure that all attractants such as food, garbage, and petroleum products are stored in a bear-resistant manner.
- Prohibit contractors and purchasers conducting contract operations from carrying firearms while on duty as per *ARM 36.11.444(2)*.
- Effectively close all restricted roads and skid trails in the Project Area via a combination of gates, berms, rocks, and stumps.
- Prohibit motorized forest management activities (including road maintenance/building, timber hauling and site preparation) within 1/4 mile of the red-tailed hawk nest location between April 1 and August 15. Maintain a 100-foot no cut buffer around the nest tree. Nesting activity will be checked annually by a DNRC biologist and timing restrictions will be relaxed if the nest site is not active or the nest is damaged/destroyed by natural causes.
- Retain some scattered patches of advanced regeneration where practicable and available.

- 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 12-15 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.
- Access to this parcel is through surrounding private land on which gates are maintained by a private landowner. Should the landowner allow motorized public access on these gated roads, DNRC should restrict the roads at DNRC parcel boundaries to preserve snags, big game security and reduce resource damage.

Literature:

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

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

MNHP. 2022. Natural Heritage Map Viewer. Montana Natural Heritage Program. Retrieved on November 29, 2022, 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.

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														
Action														
Smoke		**X**				**X**				**X**			**Y**	**AQ-1**
Dust														

Comments:

AQ-1: Smoke will be created from pile burning, and dust may be created from log hauling.

Air Quality Mitigations: All pile burning activity will be strictly in alliance with specific days approved by the Montana/Idaho Airshed group and the DEQ. To verify adequate burning conditions, a test burn will be conducted.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics	X				X				X					
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					
Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics	X				X				X					
Demands on Environmental Resources of Land, Water, or Energy	X													

Comments: Scoping letters were sent to those Tribes that requested to be notified of DNRC timber sales. No response was returned that identified a specific cultural resource issue. A Class I (literature review) level review was conducted by the DNRC staff archaeologist for the area of potential effect (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search results revealed that no cultural or paleontological resources have been identified in the APE, but it should be noted that Class III level inventory work has not been conducted there to date.

Because the topographic setting and geology suggest a low to moderate likelihood of the presence of cultural or paleontologic resources, proposed timber harvest activities are expected to have No Effect to Antiquities. No additional archaeological investigative work will be conducted in response to this proposed development. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

Mitigations: N/A

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.*

- Flathead Mine Thinning and Sanitation Timber Sale, 1974
- Flathead Mine Timber Sale, 1997

Impacts on the Human Population

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

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	X				X				X					
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment	X				X				X					
Local Tax Base and Tax Revenues	X				X				X					
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities	X				X				X					
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					
Action														
Health and Human Safety	X				X				X					
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					

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		
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities	X				X				X					
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					

Comments: N/A

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 Schools Trust. The estimated return to the trust for the proposed harvest is $INSERT TEXT based on an estimated harvest of 2.195 million board feet (15,507 tons) and an overall stumpage value of $INSERT TEXT 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: Kayla Johnson
Title: Forester
Date: October 12, 2022

Finding

Alternative Selected
Action Alternative

Significance of Potential Impacts
I find that the impacts of the proposed action alternative as described in this Environmental Assessment are not significant. This Environmental Analysis has been completed for the Browns Ranch Timber Sale. After a thorough review of the EA, project file, responses/discussions with Department and outside specialists, Department policies, standards, and guidelines, the State Land Management Rules, and the HCP rules, I have made the decision to choose the action alternative. I believe this EA has provided a good approximation of what this project would accomplish. Harvesting timber in the two sections included in this EA would generate revenue for the Common Schools trust, sanitize the areas of dwarf mistletoe, and promote overall forest health and vigor within the project area.

Need for Further Environmental Analysis

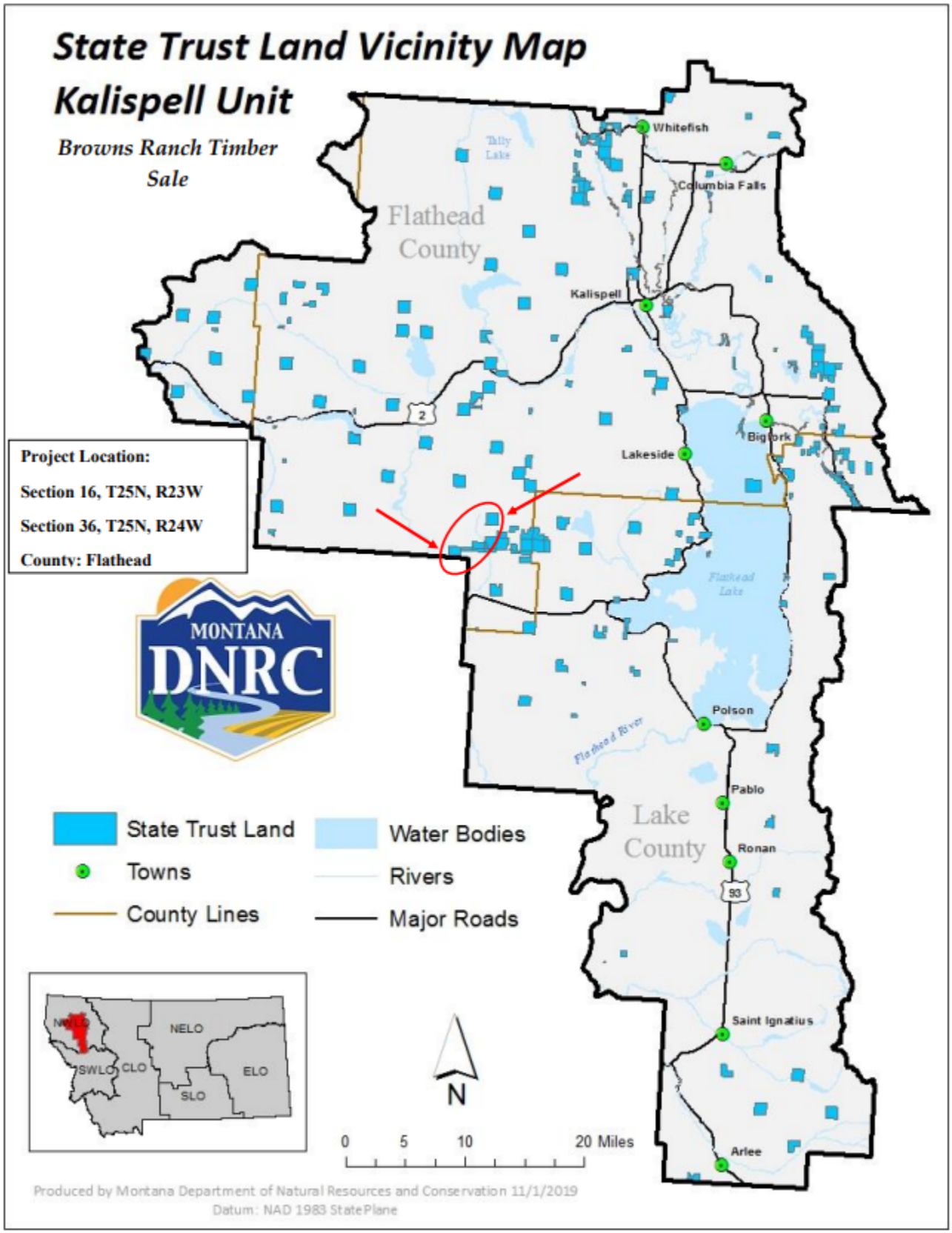
[ ]	EIS	[ ]	More Detailed EA	[X]	No Further Analysis

Environmental Assessment Checklist Approved By:

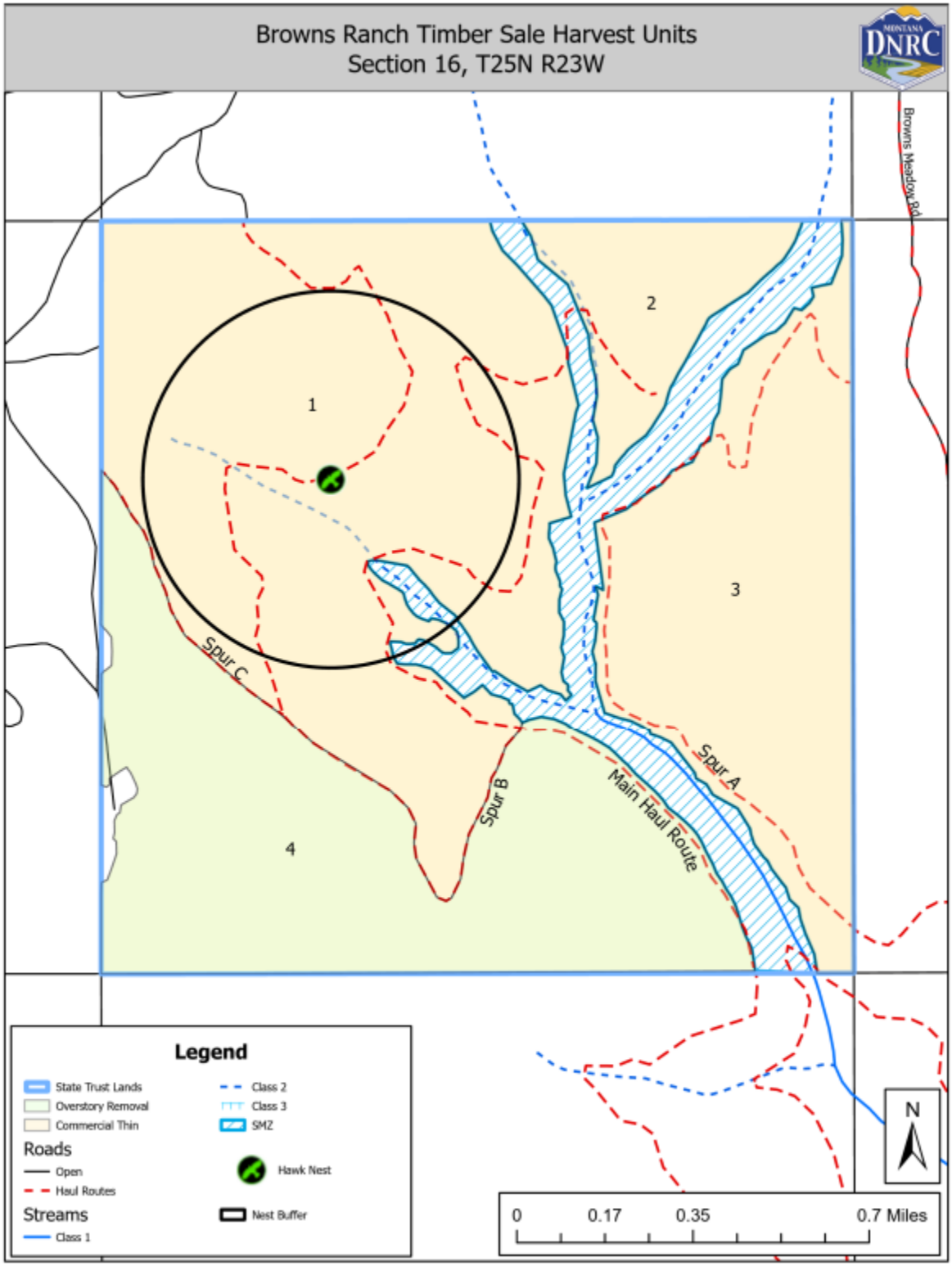
Name: David M. Poukish
Title: Unit Manager
Date: February 1, 2023
Signature: /s/ David M. Poukish

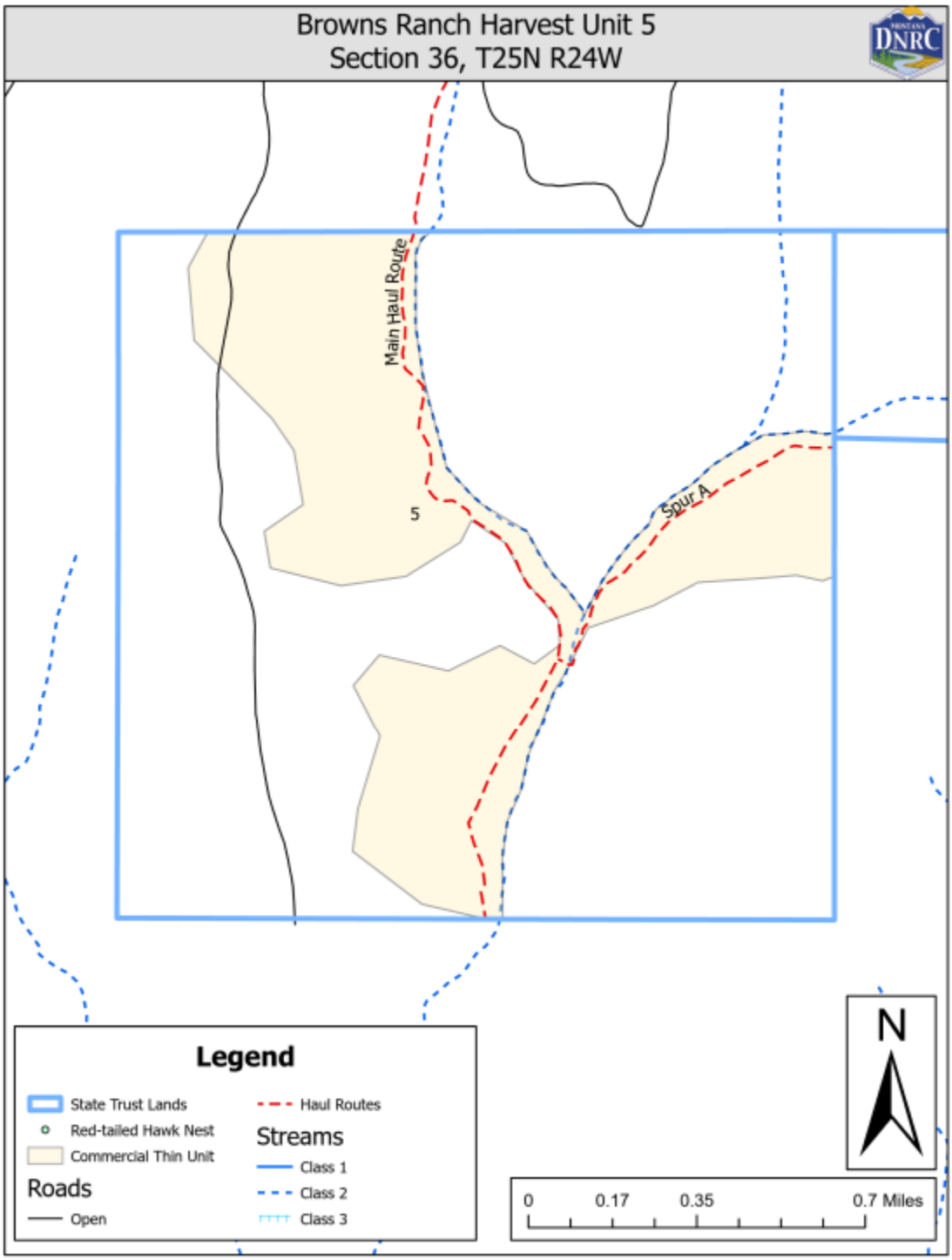
Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units




Browns Ranch Harvest Unit 5
Section 36, T25N R24W
DNRC
Main Haul Route
5
Spur A
Legend
State Trust Lands
Red-tailed Hawk Nest
Commercial Thin Unit
Roads
Open
Haul Routes
Streams
Class 1
Class 2
Class 3
N
0
0.17
0.35
0.7 Miles