

Environmental Assessment Checklist

Project Name: Baldy Buzzcut

Proposed Implementation Date: June 2026-December 2036

Proponent: Missoula Unit, Southwestern Land Office, Montana DNRC

County: Granite County

Type and Purpose of Action

Description of Proposed Action:

The Missoula Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Baldy Buzzcut Project. The proposed project is located in Granite County approximately 13 aerial miles from Clinton, MT and lies approximately 0.5 miles north from the summit of Mount Baldy (refer to Attachments vicinity map A-1 and project map A-2) and includes the following sections: T11N R15W Section 2, T12N R15W Section 36.

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	T11N R15W S2 T12N R15W S36	1,159	663*
Public Buildings			
MSU 2 nd 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			

Table 1. Proposed project beneficiary.

*Total treated acres equal the total acres with proposed treatment units. Proposed activities (Table 2) include multiple treatment units that may overlap other units.

Objectives of the proposed project include:

- Generate revenue for the Common Schools Trust.
- Improve stand health and vigor by reducing stand density and removing disease/pest damaged trees.
- Improve growth and vigor in naturally regenerated stands by reducing competition and stand density.
- Prefer low vigor and suppressed Douglas-fir for removal before economic value is lost to insect and disease damage.
- Establish new seedling growth in unregenerated stands.
- Reduce fuel loading and the likelihood of a stand replacing fire

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	38
Seed Tree	62
Shelterwood	
Selection	252
Old Growth Maintenance/Restoration	
Commercial Thinning	
Sanitation	311
Total Treatment Acres	663
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	181
Site preparation/scarification/Rx	470
Planting	470
Proposed Road Activities	# Miles
New permanent road construction	1.0
New temporary road construction	
Road maintenance	12.3
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	10 years
Implementation Period:	June 2026 – Dec. 2036

Table 2. Proposed road, forest improvement, and harvest activities within the proposed project area.

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:
 - 07/29/2025
- PUBLIC SCOPED:
 - The scoping notice was posted on the DNRC Website:
<https://dnrc.mt.gov/News/scoping-notice>
 - Statewide scoping list
 - 13 adjacent landowners within 1 mile of the proposed project area and directly adjacent to the haul route ROW.
- AGENCIES SCOPED:
 - Montana FWP
 - Statewide Tribal Agencies
 - Internal DNRC Staff
 - US BLM
- COMMENTS RECEIVED:
 - Three comments were received from individuals during the scoping process.
 - Concerns:
 - Mitchell Malone, an adjacent landowner, sent a letter with the following concerns:
 - a) Mr. Malone is concerned about DNRC access into the proposed project parcels through his property. He will not give permission to access DNRC property through his parcel
 - Skyler Hoefer, Weyerhaeuser N.R. Company, sent an email of support with the following considerations:
 - a) Allow multiple harvesting systems for each unit rather than specifying one type.
 - b) Allow ponderosa pine (if present) to be optional for harvest due to economic market conditions.
 - c) Do not make non-sawtimber removal required.
 - d) Keep base rates low to allow DNRC projects to draw interest.
 - Lucas Piper, an adjacent landowner to the haul route ROW, sent an email of support with the following concerns:

- a) The location and extent of road building associated with the DNRC easement through his property
 - b) If DNRC will grant access to other parties along the easement route.
 - c) Request more information about possible prescribed fire associated with the proposed project area.
- Results: The DNRC would like to thank all parties for their comments. All comments were taken into consideration during project planning and development.
 - Mitchell Malone
 - a) The access route in question is not needed to access DNRC parcels.
 - b) DNRC does not possess any access rights across Mr. Malone's property currently and does not plan to pursue them.
 - Skyler Hoefer, Weyerhaeuser NR
 - a) The DNRC considers economic factors related to contract requirements to meet project objectives as well as generate current and long-term revenue for the respective trust
 - Lucas Piper
 - a) Responded via email to comments and concerns.
 - b) DNRC will maintain/construct/reconstruct ROW roads as needed for access to and from the project area as granted under the easement.
 - c) DNRC will allow other parties involved with the project area access as granted under the easement rights.

DNRC specialists were consulted, including:
Project Leader (Forester): Clark Cederberg
Decision Maker: Amy Helena
Acting Hydrologist: Jeff Schmalenberg
Wildlife Biologist: Garrett Schairer
Fisheries: Mike Anderson
Archaeologist: Patrick Rennie

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 proposed 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.

A Short-term Exemption from Montana's Surface Water Quality Standards (318 Authorization) may also be required from DEQ if activities such as replacing a bridge on a stream would introduce sediment above natural levels into streams.

- **Montana/Idaho Airshed Group**- The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2010). As a member, DNRC must submit a list of planned burns to the Airshed Group's Smoke Monitoring Unit describing the type of burn to be conducted, the size of the burn in acres, the estimated fuel loading in tons/acre, and the location and elevation of each burn site. The Smoke Monitoring Unit provides timely restriction messages by airshed. DNRC is required to abide by those restrictions and burn only when granted approval by the Smoke Monitoring Unit when forecasted conditions are conducive to good smoke dispersion.
- **Montana Department of Fish, Wildlife and Parks (DFWP)**- A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include:
 - Culvert repair and replacement

ALTERNATIVES CONSIDERED:

No-Action Alternative:

The No Action Alternative is no change from the current management or program direction.

No-Action Alternative would result in:

- Further degradation of insect and disease-infested Douglas-fir stands, resulting in a loss of growth and economic value.
- No timber revenue generated for the Common Schools Trust.
- An increase in fuel loading and an increase in the chance of catastrophic stand-replacing fire.
- Slowed growth and vigor in overstocked advanced regeneration units.
- A lack of ground disturbance and new seedling establishment and growth in most units.
- Maintenance or possible increase of the current level of noxious weeds.

Action Alternative:

Action Alternative would result in:

- A commercial timber harvest would remove approximately 2 million board feet (MMBF) of timber using a combination of non-exclusive harvesting systems, including but not limited to ground-based, skyline, and/or tethered systems.
- Approximately 1 mile of new, permanent road construction.

- Approximately 12.3 miles of road maintenance and improvements.
- Culvert cleanout, repair, and replacement.
- Pre-commercial thinning of approximately 181 acres of advance regeneration.
- Herbicide application, as needed, during proposed project implementation for the control of invasive species.
- Slash landing pile burning and/or jackpot burning in compliance with the Montana/Idaho airshed group and Montana slash laws.
- Site preparation activities include, but are not limited to, broadcast burning, herbicide, or mechanical site prep.
- Tree planting.

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:

The proposed project area falls within climactic section 332B, Bitterroot-Blackfoot, which was historically 79% forested (Lozensky, 1997). Elevations in the proposed project area vary between 5000 and 6200 ft. The proposed project area has a long history of recorded forest management dating back to the 1950's. The most recent timber harvest occurred in 2010. This was a salvage harvest that likely addressed insect and disease issues at that time, removing approximately 1.3MMBF of sawlogs. The most recent wildfire was the Ryan Gulch fire (2000), which stopped just short of Section 2 and did not impact any of the proposed project area. There is currently an active grazing lease on the lands within the proposed project area.

Vegetation Existing Conditions:

For descriptive purposes, SLI (stand level inventory) delineated stands within the Project area have been grouped within their respective proposed treatment units (PTUs). Descriptions of the current stand conditions coincide with the proposed Action Alternative harvest units (Map A-2: Timber Sale Harvest Units). Table 7 describes the current cover type and Montana DNRC's desired future conditions (DFCs) for all stands within the project area. The DFC represents the cover type that DNRC aims to manage toward within a given stand to implement its coarse-filter approach to managing for biodiversity (ARM 36.11.404). All proposed silvicultural harvest prescriptions have been designed to maintain the current DFC's while still addressing current insect and disease issues (see attached prescriptions).

Unit Descriptions:

For simplification, PTUs are grouped here based on their common silvicultural treatment (see attached prescriptions). Specifics for each PTU are broken down in their respective group.

Group 1 – Sanitation

Units 1,4,9,10,11,13

The stands within these PTUs were intensively managed during the most recent timber harvest entry. All proposed units consist of nearly pure Douglas-fir stands within the PSME habitat group, although they occupy different habitat phases. Current upper level sawtimber stocking in the proposed units ranges from approximately 22 to 53 trees per acre (TPA), with average diameters of about 14 to 18 inches dbh (diameter at breast height).

A large majority of the overstory trees in these PTUs have been affected by multiple years of heavy defoliation in combination with potential environmental stressors such as drought, poor nutrient cycling, and low soil moisture. Visual estimates of crown condition during the initial site evaluation walkthrough indicated that approximately 80 percent of trees were impacted. Impacted trees are in various stages of degradation.

Crown vigor was visually estimated and used as an overall metric to evaluate defoliation impacts. Total crown vigor was assessed as a composite of crown density, crown ratio, and top dieback (Schomaker et al.). Most mature trees in these PTUs exhibit moderate to poor vigor, characterized by less than 35 percent live crown ratio, varying degrees of top dieback, and severe defoliation of fine branches. Among these moderate-to-poor-vigor trees, many are in a decay succession from live or declining to standing dead (Thomas et al. 1979).

True snags, primarily Douglas-fir, are present throughout the PTUs and span a range of diameters and decomposition stages. Stage 3 snags (dead with fine branches attached) are present, although most snags fall between stages 4 (loose bark) and 6 (broken). Depending on the timing of proposed timber harvesting, Stage 3 snags may still be suitable for utilization. All units in this group were previously harvested, resulting in relatively even spacing of leave trees, roughly 25x25 feet to 45x45 feet, consistent with current stocking levels. Most of these trees occupy a co-dominant position in the overstory, with a smaller number of scattered dominant trees. Light availability to crowns is relatively uniform across PTUs in the co-dominant and dominant crown classes, with most crowns receiving full light and very few trees receiving less than 50 percent light. These observations indicate that light availability is unlikely to be a limiting factor contributing to the crown impacts observed in these PTUs.

Unit	Acres	Habitat Type	TPA (trees per acre)	BA (basal area per acre)	Volume (mbf/acre)	QMD (in)
1	24	PSME/SYAL-AGSP	53	60	5	13.8
4	26	PSME/CARU-CARU	36	50	5	15.7
9	39	PSME/VAGL-XETE	22	30	2	14.6
10	33	PSME/SYAL-CARU	25	45	4	17.7
11	100	PSME-CARU-AGSP	38	60	4	16.3
13	89	PSME/CARU-AGSP	34	40	2	15.6

Table 3. Group 1 PTU detail.

Group 2 – Individual Tree Selection

Units 2,3,6,7,14

The stands within these PTUs were harvested during the most recent timber sale entry. These PTUs are nearly pure, multi-storied Douglas-fir stands with a small component of lodgepole pine and ponderosa pine in the overstory. Current upper level sawtimber stocking is approximately 70 to 80 trees per acre, and total merchantable stocking is close to 100 trees per acre. Average diameters range from about 13 to 16 inches dbh.

The midstory is composed primarily of suppressed Douglas-fir and smaller-diameter lodgepole pine. The overstory is partially impacted by budworm; however, the severity of impact is much lower than in the PTUs described in the previous group. Most of the subalpine fir has succumbed to forest pests, and a small number of large-diameter Engelmann spruce trees persist in riparian areas.

The understory consists primarily of Douglas-fir advanced regeneration, with lodgepole pine abundant in openings that receive sufficient sunlight. The quality of the Douglas-fir regeneration

is poor, with many individuals affected by budworm, grazing, and environmental stressors. Some lodgepole pine regeneration has also been impacted by budworm where it occurs near overstory Douglas-fir.

The dominant understory forb communities in these PTUs are beargrass/twinflower, except in Unit 14, where snowberry/pinegrass communities occur in areas that are not decomposed granite or rock scree. Areas supporting palatable forbs show evidence of grazing impacts.

Unit	Acres	Habitat Type	TPA (trees per acre)	BA (basal area per acre)	Volume (mbf/acre)	QMD (in)
2	86	ABLA/LIBO-XETE	72	70	7	13.7
3	73	ABLA/LIBO-XETE	80	80	3	13.7
6	18	ABLA/MEFE	80	100	6	14.4
7	34	PSME/CARU-CARU	81	75	3	12.9
14	41	PSME/SYAL-CARU	76	125	8	16.2

Table 4. Group 2 PTU detail.

Group 3 – Clearcut with Residuals Units 5,8

The stands within these PTUs were harvested intensively during the most recent entry. Evidence from that harvest indicates that most of the removed timber was lodgepole pine, with some Douglas-fir. The residual trees from the last entry are now entering the sawtimber size classes and have been heavily impacted by defoliators. Nearly all current sawtimber in these PTUs is Douglas-fir. Many residual trees appear to be suppressed, low-quality leave trees with poor form and vigor.

Quadratic mean diameter (QMD) for these PTUs is approximately 10 to 12 inches dbh. Stocking in the sawtimber size class is about 35 square feet of basal area per acre. Unit 5 has a somewhat higher tree density, at 68 trees per acre, compared to Unit 8 at 35 trees per acre. Most seedlings and saplings in these units are poor-form Douglas-fir that have been impacted by defoliators. Affected fir are stunted, lack terminal leaders, and exhibit a shrubby growth form. A small proportion of the PTUs supports lodgepole pine regeneration, some of which has also been damaged by defoliators.

Understory vegetation consists primarily of beargrass and twinflower, while other forbs, such as sedge, show heavy grazing by cattle.

Unit	Acres	Habitat Type	TPA (trees per acre)	BA (basal area per acre)	Volume (mbf/acre)	QMD (in)
5	4	ABLA/LIBO-XETE	69	40	2	10.3
8	34	ALBA/LIBO-XETE	35	35	1	12.8

Table 5. Group 3 PTU detail

Group 4 – Seed Tree Unit 12

The timber within PTU 12 consists primarily of sawtimber-sized Douglas-fir, with an average quadratic mean diameter (QMD) of approximately 16 inches dbh. Most of the overstory appears healthy, exhibiting vigorous crowns that show only minor defoliator impact. The unit is currently stocked at about 50 trees per acre, with a basal area of roughly 70 square feet per acre. Stocking in the lower canopy layers ranges from poor to medium vigor, and some areas lack regeneration entirely. Portions of the existing regeneration have been affected by defoliators. Ninebark and pinegrass are the primary understory plant communities in PTU 12. Evidence of grazing is present in parts of the unit; however, the steeper portions of PTU 12 appear relatively unaffected by grazing.

Unit	Acres	Habitat Type	TPA (trees per acre)	BA (basal area per acre)	Volume (mbf/acre)	QMD (in)
12	62	PSME/PHMA-CARU	47	70	7	15.6

Table 6. PTU 12 detail.

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Warm and Dry (westside)	Low-to-mixed	Douglas Fir	150-199	Douglas Fir	Sanitation	24
2	Cool and moist (westside)	Low	Douglas Fir	150-199	Douglas Fir	Individual/Select Tree Harvest	86
3	Cool and moist (westside)	Low	Douglas Fir	150-199	Douglas Fir	Individual/Select Tree Harvest	73
4	Moderately cool and moist (westside)	Low-to-mixed	Douglas Fir	150-199	Douglas Fir	Sanitation	26
5	Cool and moist (westside)	Low	Douglas Fir	150-199	Douglas Fir	Clear Cutting	4
6	Cool and moist (westside)	Low	Douglas Fir	100-149	Douglas Fir	Individual/Select Tree Harvest	18
7	Moderately cool and moist (westside)	Low-to-mixed	Douglas Fir	100-149	Douglas Fir	Individual/Select Tree Harvest	34
8	Cool and moist (westside)	Low	Douglas Fir	100-149	Douglas Fir	Clear Cutting	34

9	Moderately cool and moist (westside)	Low-to-mixed	Douglas Fir	150-199	Douglas Fir	Sanitation	39
10	Moderately cool and moist (westside)	Low	Douglas Fir	150-199	Douglas Fir	Sanitation	33
11	Warm and Dry (westside)	Low-to-mixed	Douglas Fir	150-199	Douglas Fir	Sanitation	100
12	Moderately warm and dry (westside)	Low	Douglas Fir	150-199	Douglas Fir	Seed Tree	62
13	Warm and Dry (westside)	Low-to-mixed	Douglas Fir	150-199	Douglas Fir	Sanitation	89
14	Moderately warm and dry (westside)	Low	Douglas Fir	150-199	Douglas Fir	Individual/Select Tree Harvest	41

Table 7. PTU disturbance regime, cover type, and DFCs.

Fire Hazard/Fuels:

The proposed project area contains elevated fuel levels, especially in Units 2, 3, 6, and 7, where both dead and standing timber are present. Many of the standing fuels are dead subalpine fir and Douglas-fir, likely killed by defoliators and other pests. These fuels may serve as fuel ladders, increasing the risk of large, stand-replacing fires in these units. South-facing aspects of these PTUs also have significant amounts of downed dead wood, primarily in the 10-100 hour fuel classes. The remaining units have minimal potential ladder fuels and only scattered dead wood due to previous management.

Insects and Diseases:

Western Spruce Budworm (*Choristoneura freemani* Razowski):

Severe WSB outbreaks have been observed in 2024 and 2025 within the project area and in much of the surrounding forested land. Additionally, defoliators and bark beetles were recorded previously in the proposed project area during the last SLI walkthrough. Beetle attacks had not been observed in the proposed project area recently; however, patches of dead standing trees are observable in advanced stages of decomposition, making the identification of mortality difficult. Visual estimations suggest repeated WSB outbreaks have severely impacted most of the acres in the proposed project area. WSB outbreaks are common and cyclical throughout west-central Montana and usually do not lead to the mortality of mature overstory trees (Peterson et al. 2011). However, repeated severe defoliation, especially when combined with environmental factors, can lead to mortality in mature overstory trees. Repeated defoliation can also weaken mature trees and predispose them to bark beetle attacks, leading to an even larger increase in mortality.

Overstocked, homogenous stands of preferred host species, stressed from competition, have the highest risk of devastating WSB outbreaks. However, defoliation is observable in trees of all sizes, canopy positions, and stand densities throughout the PTUs. In the most impacted PTUs,

much of the overstory has been devastated by WSB. Visual signs observed include faded tops, dead tops, defoliated terminal branches, and, in some cases, recent mortality. Many suppressed understory trees have already died in units 2 and 3. Defoliation is present in overstocked, pre-merchantable regeneration units and is cascading into unpreferred species of WSB, such as lodgepole pine.

Sensitive/Rare Plants:

An environmental summary from the Montana Natural Heritage Program (MNHP) Data Explorer indicated that there were no point observations of sensitive or rare plants within the proposed project area. Field surveys, however, documented keeled bladderpod (*Physaria carinata*) approximately 3.5 miles east of the proposed project area in the Bear Creek drainage. The MNHP Data Explorer identified the proposed project area as being within the possible range buffer of this vascular plant species; however, the modeled suitability for occurrence within the proposed project area is considered low (MNHP, retrieved 12/09/2025). Field observations during the snow-free period did not reveal any previously undocumented populations of keeled bladderpod within the proposed project area. This species typically occupies open, grassy, south-facing hillsides that are not conducive to timber growth; therefore, the likelihood of occurrence within the proposed project area is low.

Noxious Weeds:

Noxious weeds are present within the proposed project area. Noxious weeds that are present and persistent include:

- Spotted Knapweed (*Centaurea stoebe*) (MNHP 2026)
 - Noxious/Non-native – Priority 2B
 - Primarily located along roadways, grazed forest openings, and old log landings.
 - Palatable to livestock but not preferred over grasses.
 - Seeds easily spread by livestock if grazed.
 - Responds well to herbicide.
- Sulphur Cinquefoil (*Potentilla recta*) (MNHP 2026)
 - Noxious/Non-native – Priority 2B
 - Located in grazed forest openings.
 - Seedbanks for up to 3 years.
 - Responds well to herbicide
 - Non-palatable to most livestock.
- Common Mullein (*Verbascum thapsus*) (MNHP 2026)
 - Non-native.
 - Located in isolated pockets along roadways and old log landings.
 - Seedbanks for more than 35 years.
 - Non-palatable to livestock and wild animals
 - Indicator species of over-grazing.
- Common hounds-tongue (*Cynoglossum officinale*) (MNHP 2026)
 - Noxious/Non-native – Priority 2B
 - Located on disturbed sites in meadows, pastures, woodlands, roadsides, and riparian areas in the proposed project area.
 - Located in disturbed areas such as old landings, roadsides, and heavily travelled riparian areas.
 - Toxic to animals.
 - Responds well to herbicide.
- Bull Thistle (*Cirsium vulgare*) (MNHP 2026)
 - Non-Native.

- Located along roadsides and old log landings with disturbed soils from grazing and gopher holes. Also found in sparse amounts under forest canopies.
- Non-palatable to wildlife, lacks nutrients for livestock.
- Easy to control in well managed grazing land.
- Responds well to herbicide but is only a temporary control.

Priority 2B noxious weeds are defined by the MNHP as "...abundant in Montana and widespread in many counties. Management criteria will require eradication or containment where less abundant. Management shall be prioritized by local weed districts."

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Current Cover/DFCs		x			x				x				N/A	1
Age Class		x			x				x				N/A	2
Old Growth	x				x				x				N/A	
Fire/Fuels			x		x				x				N/A	4
Insects/Disease			x		x				x				N/A	5
Rare Plants	x				x				x				N/A	
Noxious Weeds	x				x				x				N/A	
Action														
Current Cover/DFCs	X				X				X				Y	1
Age Class			X		X				X				Y	2
Old Growth	X				X				X				N/A	3
Fire/Fuels			X			X			X				Y	4
Insects/Disease			X			X			X				Y	5
Rare Plants	X				X				X				N/A	6
Noxious Weeds		X			X				X				Y	7

Table 8. Vegetation impacts of No-Action and Action Alternative.

Comments:

1. Current Cover/DFCs: Current cover type and DFC's will be maintained through artificial and natural regeneration post-harvest. Under the No-Action alternative, DF would continue to decline. The decline could shift cover types away from current DFC's, however, it would be slow to change.
2. Age Class: There will be direct impacts to age class distribution in PTUs prescribed for sanitation or clearcut w/ residual harvests because most of the overstory will be removed. In these PTUs the age class distribution will shift from mature age classes to new young age classes through natural and artificial regeneration. Under the No-Action alternative the same outcome would be presumed, however, at a much lower scale over a longer period of time.
3. Old Growth: No old growth occurs within the project area as defined by Green et al. (1992).

4. Fire/Fuels: There will be a moderate short-term increase in fine woody fuels and slash with the Action Alternative because of timber harvesting and pre-commercial thinning. With the No-Action alternative, fuels would continue to accumulate through dead and dying timber due to environmental stressors and pests leading to a greater increase in persistent fuels throughout the project area.
5. Insects/Disease: Under the Action Alternative, there will likely be a net decrease in the presence of WSB in the proposed project area from removing the primary food source; Douglas-fir. Under the No-action alternative, insect activity could increase as DF beetle typically attack trees weakened by other environmental stressors and WSB.
6. Rare Plants: No identified rare plants located in the proposed project area.
7. Noxious Weeds: There is the potential to increase noxious weeds in the proposed project area through the introduction and spread of seeds via equipment and vehicle traffic under the Action Alternative. Exposed mineral soil from ground disturbance could also increase the spread of noxious weeds that need exposed soil to germinate.

Vegetation Mitigations:

1. Current Cover/DFCs: Impacts to cover type and DFC's will be mitigated by retaining at a minimum, 2 snag recruits per acre, patches of advance regeneration (where applicable), un-infested Douglas-fir, and residuals in PTU's prescribed for sanitation and clearcut harvests. In addition to the minimums, tree planting will be implemented as needed to bring PTU's back in line with DFCs. Artificial regeneration will be intended to reintroduce seral communities back into the current cover types, strengthening biodiversity and forest resilience.
2. Age Class: As with cover and DFCs some age class impacts will be mitigated by retaining biological legacies (Rudolphi & Gustafsson, 2013) through snag recruitment, residuals, and wildlife trees. New age classes will be established through natural and artificial regeneration in some PTUs.
3. Old Growth: No old growth occurs within the project area as defined by Green et al. (1992).
4. Fire/Fuels: There will be an increase in the amount of logging debris and slash with the Action Alternative. However, impacts will be relatively short-term, as most of the potential available fuels will be fine woody materials, which decay the fastest. Slash piling and burning from commercial harvests will also reduce the amount of in-woods fuels. Furthermore, both commercial and pre-commercial activities under the Action Alternative will increase the long-term fire resiliency of the proposed project area by removing dead/dying timber, decreasing competition, and increasing the vigor of residual trees.
5. Insects/Disease: Insects are already present in the proposed project area and have had a profound effect on forest health in many of the PTUs. No additional mitigations are necessary as the activities proposed under the Action Alternative will act to mitigate and curb current infestations of WSB.
6. Rare Plants: If any species of concern or potential species of concern are encountered during activities associated with this project, activities within the immediate vicinity would

cease until DNRC evaluates the occurrence and develops appropriate site-specific mitigations to protect the species and its habitat.

7. Noxious Weeds: Mitigation to prevent the spread of noxious/invasive weeds will include equipment cleaning and inspection, herbicide spot treatment and/or broadcast spray, prescribed fire, and weed monitoring.

SOIL DISTURBANCE AND PRODUCTIVITY:

Descriptions of soil map unit within the project area are presented in Attachment B-2 along with a soil map. In general, soil textures are gravelly loams of moderate depth with poorly developed organic surface layers and high volumes of coarse fragments. High coarse fragment content typically yields high infiltration rates in these soils resulting in low moisture retention, limiting forest productivity in the project area.

Very low base erosion rates of the parent material limit the erosion potential of the surface soil. High rates of infiltration and coarse fragment content also provide resistance to erosional processes. Regardless of low erosion rates, summertime convective thunderstorms have the potential to produce elevated precipitation intensities compared to other locations in the northern rockies. Best Management Practices (BMPs) for forestry are common engineering approaches to reduce soil erosion and sediment delivery for the protection of water quality. Given the precipitation frequency summary below for the project area, it is assumed that standard BMPs would provide adequate protection for soil and water resources up to approximately a 25-year event (>1.0 in/24 hr duration, highlighted). These data provide effective context for forecasting the probability of an erosional event occurring during project implementation and thus an adequate assessment of risk to detrimental effects.

PRECIPITATION FREQUENCY ESTIMATES							
By Duration for Return Interval (years):	1	2	5	10	25	50	100
15-min:	0.23	0.31	0.45	0.56	0.70	0.81	0.92
30-min:	0.28	0.38	0.55	0.68	0.86	0.99	1.12
60-min:	0.33	0.45	0.65	0.81	1.02	1.18	1.33
2-hr:	0.46	0.59	0.81	0.98	1.22	1.40	1.57
6-hr:	0.79	0.93	1.17	1.36	1.64	1.86	2.08
12-hr:	1.05	1.22	1.50	1.74	2.08	2.34	2.60
24-hr:	1.35	1.56	1.90	2.19	2.60	2.92	3.24

The most recent forest management activities (2007) in the project area constructed an efficient transportation system and treated most of the forest stands in a mix of even and uneven age silviculture prescriptions. Soil effects from these past actions include compaction and low amounts of surface displacement which have largely ameliorated. Impacts to soils resources were ocularly assessed at approximately 10% of the previously managed areas. Retention of snags and coarse woody material has helped retain site moisture and nutrient balances but is diminished as compared to unmanaged forest stands of similar habitat types.

No areas of slope instability were observed within the project area. A unique geologic structure exists in the SW1/4NE1/4 of Section 02 in the form of a cave feature. This feature will be protected with an equipment restriction zone that prohibits equipment operation immediately adjacent to the cave opening.

Soil Disturbance and Productivity Existing Conditions:

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	1
Erosion	x					x				x			N/A	2
Nutrient Cycling	x				x				x				N/A	3
Slope Stability	x				x				x				N/A	4
Soil Productivity	x					x				x			N/A	
Action														
Physical Disturbance (Compaction and Displacement)		x				x				x			Yes	1
Erosion		x				x				x			Yes	2
Nutrient Cycling		x			x				x				Yes	3
Slope Stability	x				x				x				N/A	4
Soil Productivity		x				x				x			Yes	5

Table 9. Soil disturbance and productivity impacts of No-Action and Action Alternative.

Comments:

- Existing detrimental soil disturbance for forest management activities was ocularly estimated using professional judgement at approximately 10% based on previous harvest systems, harvest intensity and soil monitoring results of similar soil and project types. Reusing existing skid trails and line corridors would minimize the extent of new disturbance and would likely limit detrimental disturbance to under 20% of the harvest area. Low levels of detrimental disturbance from cattle grazing were observed which is expected to continue until grazing management is precluded.
- Low levels of soil erosion were observed along cattle trails and around water features from stream bank trampling. Road surfaces and historic skid trails were erosively stable. There is a low probability (12%) of intense precipitation events occurring during project implementation that would limit the effectiveness of BMPs. Buffers in the project area have been unmanaged and would provide effective sediment delivery filtration if such an event occurred. As a result, there is a low risk of low-level effects of erosion from implementing the action alternative.
- Coarse woody debris retention of 10-15 tons/acre would provide mitigation for nutrient budget impacts. Snag and snag recruitment would also provide long-term large wood recruitment to facilitate microsite creation, moisture retention and soil organic matter

accumulation. Effects are forecasted to be low with no indirect or cumulative effects expected.

4. No existing or forecasted slope instability occurs in the project area or would be exacerbated by implementation of the action alternative.
5. Existing soil productivity within the project area is low to moderate dependent on aspect and proximity to shallow groundwater sources. The soil mitigations provided below and standard forest management BMPs have demonstrated to provide adequate soil protection so that 80% of the soil resource in the project area would remain intact, porous, and productive. Though some detrimental disturbance (<20%) is inevitable when operating heavy equipment in the woods, there is low risk of low-level effects to long-term loss of soil productivity because of implementing the action alternative.

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 or reuse 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. Untethered, ground based skidding should be limited to slopes of less than 45 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 and/or 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 drainage on skid trails and roads concurrently with operations.
5. Slash disposal: Limit the combination of displacement 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 so that fine material accounts for approximately 30-40% of the total coarse wood material tonnage. Coarse woody debris retention may also be met through breakage during normal felling and skidding operations.

WATER QUALITY AND QUANTITY:

The following physical attributes of the Dry Creek watershed provide rationale that supports the assumption that the proposed actions present a low risk of low-level cumulative watershed effects:

1. Hydrologically disconnected from waters that support aquatic life as a beneficial use (Clark Fork River).
2. Low average annual precipitation of 24.6 inches and a 1 inch per hour precipitation event recurrence interval of 25 years.
3. The area of the watershed represented by northern aspects on steep slopes is 14% of the watershed area. As a result, modifications to water yield and runoff response as result of the action alternative have a low probability to overcome this physical watershed attribute largely responsible for baseflow stream flows and maintenance of the annual hydrograph.

Dry Creek Watershed - 8.5 mi²		
Parameter Description	Value	Unit
Mean basin slope computed from 30 m DEM	40	percent
Area that contributes flow to a point on a stream	8.49	square miles
Percent of area above 5000 ft	82	percent
Percent of area above 6000 ft	37	percent
Mean Basin Elevation	5,642	feet
Maximum basin elevation	6,933	feet
Percentage of area covered by forest	63	percent
Minimum basin elevation	3,685	feet
Percent area with north-facing slopes greater than 30 percent from 30-meter DEM	14.3	percent

Water Quality and Quantity Existing Conditions:

The Dry Creek watershed is 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.

Dry Creek is hydrologically disconnected from the Clark Fork river assessment unit (Flint Creek to Blackfoot River). This assessment unit is listed on the 2022/2024 303d list for numerous impairments including heavy metals, nutrients, stream alterations and flow modifications.

The project area contains discontinuous reaches of Class 2 stream segments under the Montana Streamside Management Zone law. These streams, as well as adjacent wetlands, will be provided with SMZ protections. Roads in the project area generally meet BMPs except for three road-stream crossing structures that will receive deferred maintenance to improve functionality. One culvert on an intermittent, Class 2 stream would be replaced under the proposed action. No new stream crossing structures are proposed.

No active sediment delivery from road surfaces was documented during field review. Chronic streambank trampling and riparian cattle trailing are causing ongoing, low-level sediment

delivery to the stream, and this is expected to continue until grazing management practices are changed to prevent livestock access and use patterns that damage stream banks.

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

Table 10. Water Quality and Quantity impacts of No-Action and Action Alternative.

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. 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 3 percent of the forested acres with even aged management. Considering this level of harvest and the existing condition of the watershed, in concert with implementing BMPs and streamside buffers, the action alternative is not expected to result in measurable effects on the timing, magnitude, or duration of peak flows in disconnected downstream receiving waters.
3. Due to harvest systems utilized, location and size of harvest units relative to stream channels, implementation of Forest Management BMPs, 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.

Water Quality & Quantity Mitigations:

1. Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
2. Implementation of Montana Administrative Rules for Forest Management and Streamside Management Zones.
3. Implementation of applicable conservation strategies under Montana DNRC's Forested Habitat Conservation Plan
4. Implement all requirements prescribed under the Montana Stream Protection Action permit for the culvert replacement.

FISHERIES:

Fisheries Existing Conditions: No fisheries are supported by the streams in or downstream of the project area. Due to this and the disconnected nature of Dry Creek to the Clark Fork River, all fisheries related issues will be dismissed from further analysis.

WILDLIFE:

Evaluation of the impacts of the No-Action and Action Alternatives including **direct, indirect, and cumulative** effects on Wildlife.

Wildlife Existing Conditions: The project area is a mix of forested Douglas-fir and lodgepole pine saw timber stands of varying stocking densities resulting from wildfire activity and past timber management. The project area contains habitat for a diverse array of wildlife that rely on the upland coniferous forests of western Montana. Grizzly bears may use the vicinity of the project area during the non-denning period. Some potential Canada lynx habitats exist in the project area, but are reasonably low quality and are interspersed with unsuitable, drier ponderosa pine and Douglas-fir types. Little or no use of the project area by wolverine would be anticipated. Potential habitat exists for fisher, flammulated owls, fringed myotis, northern hoary bats, and pileated woodpeckers in the project area. Big game summer range as well as elk winter range exist in the project area. The project area is on the edge of the area the Lower Blackfoot bighorn sheep herd utilizes; habitats in the project area could serve as winter range or summer range for bighorn sheep. Habitats in the project area may contribute to big game security habitats in the vicinity.

No-Action: No potential for disturbance to wildlife would be anticipated. No timber management or associated activities would be conducted, thus no appreciable changes to existing habitats would occur. Continued maturation could improve grizzly bear, Canada lynx, and pileated woodpecker habitats, as well as big game winter and summer range attributes, but could reduce habitat quality for flammulated owls and big game forage attributes over the long term. No changes to large diameter trees or snags would occur in the project area. Ongoing insect and disease activity could continue altering visual screening, canopy closure, and stand densities, which could alter wildlife use of the project area. Generally, negligible direct, indirect, or cumulative effects to wildlife would occur.

Action Alternative (see Wildlife table below):

Roughly 664 acres of mature Douglas-fir stands with reasonably closed canopies would be commercially harvested. In general, habitats for those species adapted to more-open stands of Douglas-fir and ponderosa pine similar to areas that historically experienced frequent, low-intensity, under burns and somewhat less frequent mixed-severity burns would increase in the project area. Conversely, habitats for wildlife species that prefer somewhat dense, mature Douglas-fir would be reduced. Across proposed units, reductions in canopy cover would be anticipated, but proposed prescriptions would retain numerous large trees, which could continue to provide habitats for a variety of wildlife species that rely on larger Douglas-fir. Moderate reductions in visual screening for several wildlife species that rely on this attribute would occur. Prescriptions would retain at least 2 large snags and 2 large recruitment trees per acre (both >21 inches dbh where they exist, otherwise next largest size class available) and where sufficient snags are not available additional large leave trees would be retained to meet this requirement. Proposed pre-commercial thinning could reduce some horizontal cover; proposed prescribed burning would further reduce horizontal cover and could create some additional snags. Anticipated regeneration could improve hiding cover and forage resources in the near-term. Short-term increases in disturbance potential associated with proposed road construction and use, timber management, site preparation, pre-commercial thinning, and prescribed burning would be anticipated, but overall, a negligible increase in potential human disturbance would be

anticipated following proposed treatments. No changes in legal motorized public access would occur in the project area. Contract stipulations would minimize the presence of human-related attractants for the duration of the proposed activities.

Wildlife	Effects								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	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			Y	1
Canada lynx (Felix lynx) Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone		X				X			Y	2
Yellow-Billed Cuckoo (Coccyzus americanus) Habitat: Deciduous forest stands of 25 acres or more with dense understories and in Montana these areas are generally found in large river bottoms	X				X					3
Wolverine (Gulo gulo) Habitat: Alpine tundra and high-elevation boreal forests that maintain deep persistent snow into late spring		X				X				4
Sensitive Species										
Bald eagle (Haliaeetus leucocephalus) Habitat: Late-successional forest less than 1 mile from open water	X				X					
Black-backed woodpecker	X				X					3

Wildlife	Effects								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
(<i>Picoides arcticus</i>) Habitat: Mature to old burned or beetle-infested forest										
Fisher (<i>Martes pennanti</i>) Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian		X				X			Y	5
Flammulated owl (<i>Otus flammeolus</i>) Habitat: Late-successional ponderosa pine and Douglas-fir forest		X				X			Y	6
Fringed myotis (<i>Myotis thysanodes</i>) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines		X				X			Y	7
Northern Hoary bat (<i>Lasiurus cinereus</i>) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges		X				X			Y	8
Peregrine falcon (<i>Falco peregrinus</i>) Habitat: Cliff features near open foraging areas and/or wetlands	X				X					3
Pileated woodpecker (<i>Dryocopus pileatus</i>) Habitat: Late-successional			X			X			Y	9

Wildlife	Effects								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
ponderosa pine and larch-fir forest										
Townsend's big-eared bat (Plecotus townsendii) Habitat: Caves, caverns, old mines		X				X			Y	10
Forest Raptors										
Northern Goshawk		X				X			Y	11
Cooper's Hawk		X				X			Y	11
Big Game Species										
Elk		X				X			Y	12,13
Whitetail deer		X				X			Y	12,13
Mule Deer		X				X			Y	12,13
Moose		X				X			Y	12,13
Bighorn Sheep		X				X			Y	14

Table 11. Wildlife impacts of No-Action and Action Alternative.

Comments:

W-1 The project area is 25 miles southeast of the Northern Continental Divide Ecosystem grizzly bear recovery area, and 8 miles southwest of 'occupied' grizzly bear habitat as mapped by grizzly bear researchers and managers to address increased sightings and encounters of grizzly bears in habitats outside of recovery zones (Wittinger et al. 2002). Individual animals have been documented in the vicinity and could continue to use the project area throughout the non-denning period. Approximately 750 acres (65%) of the project area appear to have sufficient cover to potentially serve as hiding cover for grizzly bears, ongoing insect and disease issues are likely reducing some grizzly bear hiding cover. The project area contains no open roads, but existing open habitats as well as proximity to numerous forms of human disturbance likely reduce overall usefulness of the project area for grizzly bears. No grizzly bear security habitats (≥ 0.3 miles from roads receiving motorized use and $\geq 2,500$ acres in size) exist solely in the project area, but the project area could contribute to blocks of security habitats in the vicinity depending on private access in the vicinity. Overall, given the varied ownership patterns, presence of numerous forms of human disturbance, the ongoing insect and disease issues in the area removing hiding cover, and the rather large footprint of past wildfires in the vicinity which lacks hiding cover, the overall quality of this area for grizzly bear security habitats is likely somewhat limited.

Grizzly bears could be affected directly through increased road traffic, noise, and human activity, and indirectly by altering the amount of hiding cover and forage resources in the project area. Proposed activities could occur during the denning period or the non-denning period. Proposed activities conducted in the denning period would not be expected to disturb grizzly bears; some disturbance to grizzly bears would be possible with proposed activities that may occur during the non-denning period. Overall, the proposed activities would occur in areas where grizzly bear use would be anticipated, thus potential for disturbance and displacement of grizzly bears would be anticipated.

Approximately 1.0 mile of new permanent road would be constructed with the proposed activities. No changes in open road density or motorized public access would be anticipated. Negligible changes to non-motorized public access could occur, thus no appreciable changes in contact between humans and grizzly bears would occur. Hiding cover would be reduced on most of the 492 acres (65%) of hiding cover proposed to receive commercial treatments. Meanwhile, proposed activities in habitats that are not presently providing hiding cover (172 acres) would slow the development of those attributes into the future. Some hiding cover in the form of brush, shrubs, and sub-merchantable trees would persist in several of the units, albeit at a reduced level from the existing condition. Additional reductions in grizzly bear hiding cover would occur with the proposed pre-commercial thinning and prescribed burning, including an additional 4 acres (<1%) of potential hiding cover that would not receive commercial treatments; although some of the proposed pre-commercial thinning units would still likely meet hiding cover requirements depending on the resultant stand densities following proposed treatments. Overall, hiding cover would increase through time across all proposed units as young trees and shrubs regenerate over the next 5 to 15 years. Generally, reductions in hiding cover would occur, but would not alter the availability of existing grizzly bear security habitats in the vicinity. Any unnatural bear foods or attractants (such as garbage) would be kept in a bear resistant manner. Any added risk to grizzly bears associated with unnatural bear foods or attractants would be minimal. Continued use of the project area and cumulative effects analysis area by grizzly bears would be anticipated at levels similar to present.

W-2 There are roughly 554 acres (48%) of potential Canada lynx habitats in the project area, which includes 447 acres of winter foraging habitats, and 107 acres of 'other suitable' habitats. Most of the suitable lynx habitats in the project area are relatively low quality, are being affected by ongoing insect and disease issues, and exist in a matrix of non-suitable habitats. There are roughly 450 acres (14%) of potential lynx types on other DNRC-managed parcels in the cumulative effects analysis area, but are also interspersed in a matrix of unsuitable, drier ponderosa pine and Douglas-fir types. On other ownerships in the cumulative effects analysis area, there are roughly 9,946 acres (26% of non-DNRC lands) of forested stands with a reasonably closed canopy that are dominated by Douglas-fir, subalpine fir, lodgepole pine, and mixed conifers that likely include some winter foraging habitats, although some of the Douglas-fir types likely include types that Canada lynx don't typically use. There are also roughly 9,870 acres (26%) of pole-timber stands and poorly stocked sawtimber stands of similar species composition that may include some 'other suitable' habitats, but may also include some drier, non-suitable Douglas fir types that wouldn't be used by Canada lynx. Additionally, there are roughly 9 acres (<1%) of young seedling and sapling stands dominated by lodgepole pine on other ownerships, which likely include some summer foraging habitats. There are 15,467 acres (40%) of poorly stocked seedling and sapling stands and non-stocked stands that likely include some temporary non-suitable habitats; no lynx habitats likely exist on the 3,059 acres (8%) of shrubs, herbaceous, non-forested types, and forested stands dominated by ponderosa pine on other ownerships in the cumulative effects analysis area. Timber management, recent wildfires, and human developments that have occurred in the cumulative effects analysis area likely altered Canada lynx habitats and/or human disturbance levels. Connectivity of lynx habitats within the cumulative effects analysis area is somewhat limited due to ownership, past timber management, human developments, recent wildfires, and the interspersed nature in a matrix of unsuitable, drier ponderosa pine and Douglas-fir types in the cumulative effects analysis area. In general, extensive use of the project area and the larger cumulative effects analysis area by Canada lynx would not be anticipated. Roughly 80.1% of habitats on DNRC-managed lands administered by the Southwestern Land Office under the HCP and outside of the Lynx Management Areas are in suitable lynx habitat categories.

Proposed commercial timber management would alter 319 acres of potentially suitable lynx habitats that are split between winter foraging habitats (216 acres) and 'other suitable' habitats (103 acres); generally given the existing conditions and the anticipated stand conditions following proposed treatments, all these acres would be converted to temporary non-suitable habitats. Portions of these habitats (85 acres) would also be treated with prescribed fire following proposed commercial treatments, which would largely ensure they would be temporary non-lynx habitats following proposed treatments; conversely a fairly minor amount (<2 acres) of existing lynx habitats would also be pre-commercially thinned and would likely be temporary non-suitable habitats following proposed treatments. Outside of proposed commercial units, another 179 acres of lynx habitats would be pre-commercially thinned, which would likely be dense enough to be considered 'other suitable' habitats. Following proposed treatments, 319 acres commercially treated (58%) would likely be considered temporary non-suitable habitats, 180 acres (32%) would be considered 'other suitable', and only 55 acres (10%) would be in potential winter foraging habitats. Generally, these reductions in winter foraging and 'other suitable' habitats would have negligible effects on Canada lynx in the project area given the limited habitats affected, the landscape matrix within which they are found, and the overall use of the landscape by Canada lynx. Overall, relatively low use of silvicultural-treated areas by Canada lynx can be anticipated for 10-40 years depending on the intensity of the treatments (Holbrook et al 2018). Coarse woody debris would be retained (emphasizing retention of some logs 15 inches dbh and larger) to provide some horizontal cover and security structure for lynx. The retention of patches of advanced regeneration of shade-tolerant trees, such as grand-fir, sub-alpine fir, and Engelmann spruce in lynx habitats, would break up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx. Within the cumulative-effects analysis area, roughly 392 acres of lynx habitats (39%) on DNRC-managed lands would be in temporary non-suitable habitats following proposed activities. The reductions in winter foraging and 'other suitable' habitats on a small portion of the cumulative effects analysis area would have negligible effects on the quality of the lynx habitats in the larger cumulative effects analysis area. In the near-term, slight increases in the amounts of summer foraging habitats available in a small portion of the cumulative effects analysis area would occur. Anticipated reductions in lynx habitats would be additive to past losses from timber harvesting, recent wildfires, and any ongoing modifications in the cumulative-effects analysis area. No further changes to the suitable lynx habitats on other ownerships would be anticipated. Forest connectivity would be altered in the project area, but these modifications in connectivity would not appreciably alter connectivity in the cumulative effects analysis area. Overall, given few or no lynx have been detected in the vicinity, some lynx habitats would persist in the cumulative effects analysis area, and existing habitats exist in a matrix of drier, less suitable habitat types, minor cumulative effects to Canada lynx would be anticipated. Following proposed treatments, approximately 79.3% of habitats on all DNRC-managed lands administered by the Southwestern Land Office outside of the Lynx Management Areas are in suitable lynx habitat categories.

W-3 The project area is either out of the range of the normal distribution for this species or suitable habitat is not present. Thus, no direct, indirect, or cumulative effects would be anticipated.

W-4 Generally wolverines are found in sparsely inhabited remote areas near treeline characterized by cool to cold temperatures year-round and rather deep and persistent snow well into the spring (Copeland et al. 2010). The availability and distribution of food is likely the primary factor in the large home range sizes of wolverines (Banci 1994). The project area is generally below the elevations where wolverines tend to be located. No areas of potentially deep persistent spring snow occur in the vicinity. Individual animals could occasionally use the

project area while dispersing or possibly foraging, and they could be displaced by project-related disturbance if they are in the area during proposed activities. However, given their large home range sizes (~150 sq. mi. -- Hornocker and Hash 1981) and the manner in which they use a broad range of forested and non-forested habitats, the proposed activities and alterations of forest vegetation on the project area would have negligible influence on wolverines.

W-5 Roughly 44 acres of potential upland fisher habitats exist in the project area and no potential riparian fisher habitats exist along the 5.7 miles of class 1 and class 2 streams in the project area. Existing habitats are concentrated in the northeast portion of the project area where some cool and moist types exist. Overall, habitats in the project area and cumulative effects analysis area are somewhat discontinuous and interspersed with drier and/or more open habitats than generally used by fisher, thus extensive use would not be anticipated. Ongoing insect and disease issues in the vicinity are continuing to alter canopy closure and stand densities which is likely reducing overall quality of existing habitats. Roughly 7 acres (16%) of upland fisher habitats would receive commercial harvest type treatments, which would reduce canopy closure and resultant stands would be too open to be used by fisher. Roughly 37 acres (84%) of upland fisher habitats would be pre-commercially thinned, which could improve overall canopy growth in the future, which could expedite the time it takes for those stands to be suitable for fishers. No changes in open roads would be anticipated; trapping pressure and the potential for fisher mortality would not change. The amount of the preferred riparian fisher cover types meeting structural requirements for fishers at the cumulative-effects analysis area would not change on DNRC-managed lands. Reductions in upland habitats would further reduce the amount of suitable upland fisher habitats in the cumulative effects analysis area. These reductions would be additive to the losses associated with past timber harvesting and recent wildfires in the cumulative-effects analysis area.

W-6 Roughly 597 acres (52% of the project area) of potential flammulated owl habitats exist in the project area in dry Douglas-fir stands. Some suitable habitats likely exist on a portion of the 18,270 acres (48% of non-DNRC-managed lands) of open and closed forested habitats on other ownerships in the cumulative effects analysis area; however, portions of these forested areas are not likely preferred flammulated owl habitat types. Elsewhere in the cumulative effects analysis area, some of the forested habitats have been harvested in the recent past, potentially improving flammulated owl habitat by creating foraging areas and reversing a portion of the Douglas-fir encroachment and opening up stands of ponderosa pine; however, retention of large ponderosa pine and/or Douglas-fir was not necessarily a consideration in some of these harvest units, thereby minimizing the benefits to flammulated owls. Alterations to existing habitats caused by ongoing insect and disease issues in the vicinity are continuing to modify flammulated owl habitats.

Flammulated owls can be tolerant of human disturbance (McCallum 1994), however the elevated disturbance levels associated with proposed activities could negatively affect flammulated owls should activities occur when flammulated owls are present. Proposed activities could overlap the nestling and fledgling periods, which has the potential to disturb nesting flammulated owls. Since some snags and large trees would be retained, loss of nest trees would be expected to be minimal. Proposed commercial activities on 345 acres of potential flammulated owl habitats (58% of the habitats in the project area) would open the canopy while favoring Douglas-fir, ponderosa pine, and western larch. The proposed treatments would reduce canopy closure and improve foraging habitats. Negligible changes to flammulated owl foraging habitats would be anticipated with the proposed pre-commercial thinning; proposed prescribed burning could reduce the quality of foraging habitats in those areas, but could expedite the return of potential foraging habitats should stands successfully regenerate

following proposed burning. Overall, the more open stand conditions, the retention of fire adapted tree species, and the maintenance of existing snags would move the project area toward historical conditions, which is preferred flammulated owl habitat. Disturbance in flammulated owl habitats would occur on a small portion of the cumulative effects analysis area and could be additive to ongoing activities in the area. Proposed activities would increase the amount of the cumulative effects analysis area that has been recently harvested, which would add to the amounts of foraging habitats available, but possibly at the expense of losing snags and large trees important for nesting. Overall, no change in the amount of potential flammulated owl habitats would occur on DNRC-managed lands or any other ownerships; a slight improvement in habitat quality at the cumulative-effects analysis level could be realized with this alternative and the more historic conditions likely after proposed activities.

W-7 Fringed myotis are year-round residents of Montana that use a variety of habitats, including deserts, shrublands, sagebrush-grasslands, and forested habitats. They overwinter in caves, mines, crevices, or human structures. Fringed myotis forage near the ground or near vegetation. Fringed myotis have not been documented in the vicinity of the project area, but since suitable habitat exists, some use by fringed myotis is possible. While no known caves or other structures used for roosting occur in the project area or immediate vicinity, 2 smaller caves/holes exist in the project area that may be useful to fringed myotis. Past monitoring did not detect fringed myotis and while there was some evidence of general bat usage, there was not sufficient evidence of the features being an important feature for fringed myotis (T. Ritter, FWP, pers comm. 1/16/26). Potential roosting habitats may exist on the 1,040 acres (90%) of moderately to well stocked sawtimber stands in the project area that are dominated by Douglas-fir. Meanwhile roughly 1,094 acres (95%) of potential upland and 58 acres (5%) of potential riparian foraging habitats exist in the project area that could support moths, beetles, and other insects upon which fringed myotis forage. Alterations to existing habitats caused by ongoing insect and disease issues in the vicinity is continuing to modify fringed myotis habitats. Firewood gathering, which can result in a reduction of snags valuable as roosting sites, is rather unlikely given the lack of open roads in the project area. Predicted habitat suitability models identify the cumulative effects analysis area as largely unsuitable or low suitability with some areas of moderate suitability largely along the Clark Fork River and Bear Creek to the east of the project area (MNHP 2026). Suitable roosting habitats likely exist on a portion of the 11,103 acres (27%) of forested habitats on other DNRC-managed lands and other ownerships. The remaining 30,428 acres (73%) of shrubs, herbaceous areas, poorly stocked forested stands, and recently harvested stands or burned stands on other ownerships in the cumulative effects analysis area could be potential foraging habitats for fringed myotis. Roughly 2,114 acres (5%) occur close to the 141 miles of class 1 and 2 streams in the cumulative effects analysis area that may be suitable riparian foraging habitats.

Proposed activities could disturb fringed myotis should they be in the area during proposed activities. Proposed harvesting would occur on roughly 740 acres (71%) of potential roosting habitats in moderately to well stocked sawtimber stands dominated by Douglas-fir. Since fringed myotis bats typically roost in trees and snags, the proposed harvesting would reduce overall quality of these areas for roosting. Despite these reductions in potential roosting substrates, considerable amounts of trees would persist in the project area that could be suitable roosting sites. At least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and could provide roosting sites (ARM 36.11.411). Continued use of the 844 acres of proposed commercial, pre-commercial, and prescribed burn units as foraging habitats would be possible following proposed treatments. Proposed activities on up to 23 acres of SMZ and RMZ areas (40%) could alter stand densities and subsequent foraging habitats, but considerable trees and shrubs would persist and those

areas would be expected to continue functioning as potential foraging habitats. No changes to open roads or public access would occur, thus no additional risks to roosting habitats from public firewood gathering. Disturbance in fringed myotis habitats could occur on a small portion of the cumulative effects analysis area should activities occur during the non-hibernating period and could be additive to ongoing activities in the area. Proposed activities would reduce overall habitat quality on approximately 740 acres of potential roosting habitats for the next 30-50 years. Proposed activities would increase the amount of the cumulative effects analysis area that has been recently harvested or altered by recent wildfires, which would further reduce the availability of snags and large trees important for roosting. No further changes in potential roosting or foraging habitats in the cumulative effects analysis area would be anticipated. Through time, roosting habitats would be expected to develop on non-stocked or poorly stocked stands resulting from past timber management or recent wildfires. No changes to open roads or public access would occur, thus no additional risks to roosting habitats from public firewood gathering. Overall, negligible changes to fringed myotis use of the project area or cumulative effects analysis area would be anticipated. Generally, minor adverse direct, indirect, or cumulative effects to fringed myotis would be anticipated.

W-8 Northern hoary bats are summer residents (June-September) across a variety of forested habitats in Montana. Northern hoary bats frequently forage over water sources near forested habitats. Northern hoary bats are generally thought to roost alone, primarily in trees, but will also use caves, other nests, and human structures. Some use of the project area by northern hoary bats would be possible given the varied habitats present and the proximity to the Clark Fork River, Dry Gulch, and numerous other smaller riparian areas. Individual trees and snags in the existing forested habitats could be used for roosting. Northern hoary bats have not been documented in the vicinity of the project area, but have been documented to the west of the project area in Cramer Creek and to the southeast of the project area along the Clark Fork River. While no known caves or other structures used for roosting occur in the project area or immediate vicinity, 2 smaller caves/holes exist in the project area that may be useful to northern hoary bats. Past monitoring did not detect northern hoary bats and while there was some evidence of general bat usage, there was not sufficient evidence of the features being an important feature for northern hoary bats (T. Ritter, FWP, pers comm. 1/16/26). Potential roosting habitats may exist on the 1,040 acres (90%) of moderately stocked sawtimber stands dominated by Douglas-fir in the project area. Meanwhile some potential foraging habitats likely exist in the 104 acres (10%) of seedling/sapling stands, non-stocked stands, and poorly stocked sawtimber stands as well as other openings and non-forested areas in the project area. Alterations to existing habitats caused by ongoing insect and disease issues in the vicinity are continuing to modify northern hoary bat habitats. Additionally, some riparian features are located in the project area which could also contribute to potential foraging habitats. Snags and coarse woody debris within the project area are present and at appropriate levels for existing habitat types. Firewood gathering, which can result in a reduction of snags valuable as roosting sites, is unlikely in the project area given the lack of open roads. Predicted habitat suitability models identify the cumulative effects analysis area as largely low suitability with some areas of moderate suitability largely along the Clark Fork River (MNHP 2026). Suitable roosting habitats likely exist on a portion of the 11,103 acres (27%) of forested habitats on other DNRC-managed lands and other ownerships in the cumulative effects analysis area. The remaining 30,428 acres (73%) of shrubs, herbaceous areas, poorly stocked forested stands, and recently harvested stands on other ownerships in the cumulative effects analysis area could be potential foraging habitats for northern hoary bats, although many of these potential habitats are distant from streams or other riparian features.

Proposed activities could disturb northern hoary bats should they be in the area when proposed activities were occurring. Thus, any activities conducted outside of the summer period (June to September) would not be expected to disturb northern hoary bats, but activities that would occur during the summer could disturb northern hoary bats for up to 10 years. Proposed harvesting would occur on approximately 740 acres (71%) of potential roosting habitats in moderately to well stocked sawtimber stands dominated by Douglas-fir. Since northern hoary bats typically roost in trees and snags, the proposed harvesting would reduce overall quality of these areas for roosting. Despite these reductions in potential roosting substrates, considerable amounts of trees would persist in the project area that could be suitable roosting sites. At least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and could provide roosting sites (ARM 36.11.411). Proposed activities on up to 23 acres of SMZ and RMZ areas (40%) could alter stand densities and subsequent foraging habitats, but considerable trees and shrubs would persist and those areas would be expected to continue functioning as potential foraging habitats. Continued use of the 844 acres of proposed commercial, pre-commercial, and prescribed burn units as foraging habitats would be possible following proposed treatments. No changes to open roads or public access would occur, thus no additional risks to roosting habitats from public firewood gathering. Disturbance in northern hoary bat habitats could occur on a small portion of the cumulative effects analysis area should northern hoary bats be present and could be additive to ongoing activities in the area. Proposed activities would reduce overall habitat quality on approximately 740 acres of potential roosting habitats for the next 30-50 years. Proposed activities would increase the amount of the cumulative effects analysis area that has been recently harvested, which would add to the amounts of foraging habitats available, but possibly at the expense of losing snags and large trees important for roosting. No further changes in potential roosting or foraging habitats in the cumulative effects analysis area would be anticipated. Through time, roosting habitats would be expected to develop on non-stocked or poorly stocked stands resulting from past timber management or recent wildfires. No changes to open roads or public access would occur, thus no additional risks to roosting habitats from public firewood gathering. Overall, negligible changes to northern hoary bat use of the project area or cumulative effects analysis area would be anticipated. Generally, minor adverse direct, indirect, or cumulative effects to northern hoary bats would be anticipated.

W-9 Roughly 638 acres (55% of the project area) of potential pileated woodpecker nesting habitat exist in the project area; another 409 acres (36%) of potential foraging habitats exist in the project area. Some suitable habitats likely exist on a portion of the 10,381 acres (27% of non-DNRC lands) of forested habitats on other ownerships in the cumulative effects analysis area. Much of the 27,971 acres (73%) of shrubs, herbaceous areas, poorly stocked forested stands, and recently harvested stands on other ownerships in the cumulative effects analysis area are likely too open to be useful to pileated woodpeckers. Alterations to existing habitats caused by ongoing insect and disease issues in the vicinity are continuing to modify pileated woodpecker habitats.

Pileated woodpeckers can be tolerant of human activities (Bull and Jackson 1995), but might be temporarily displaced by any proposed activities that could occur during the nesting period. Roughly 412 acres (65%) of the potential nesting habitat along with 144 acres (35%) of potential foraging habitats would be harvested. Stands proposed for treatment would be temporarily unsuitable for pileated woodpeckers due to the openness of the stands following proposed treatments. Overall quality of these potential pileated woodpecker habitats would be reduced for 30-50 years. Elements of the forest structure important for nesting pileated woodpeckers, including snags, coarse woody debris, numerous leave trees, and snag recruits would be retained in the proposed harvest areas. Proposed pre-commercial thinning would not affect

current pileated woodpecker habitats, but could expedite the movement of those stands towards future pileated woodpecker habitats. Proposed prescribed burning would be expected to have negligible effects to pileated woodpeckers, but could create additional snags from existing leave trees while also shortening the time before those areas could again be suitable pileated woodpecker habitats. Since pileated woodpecker density is positively correlated with the amount of dead and/or dying wood in a stand (McClelland 1979), pileated woodpecker densities in the project area would be expected to be reduced on 664 acres proposed for commercial treatment. In the cumulative effects analysis area, the reduction in quality on 412 acres of potential nesting habitats and 144 acres of foraging habitats would further reduce available habitats and reduce the overall quality of the cumulative effects analysis area for pileated woodpeckers. Collectively, a reduction in the quality of pileated woodpecker habitats in the cumulative effects analysis area would be anticipated, but continued use would be expected.

W-10 Townsend's big eared bats are year-round residents in Montana that are closely associated with caves, caverns, old mines. Townsend's big-eared bats feed on various nocturnal flying insects near the foliage of trees and shrubs. Townsend's big-eared bats have been documented in the vicinity of the Cramer Creek to the west of the project area. Some use of the project area by Townsend's big-eared bats would be possible given the varied habitats. While no known caves or other structures used for roosting occur in the project area or immediate vicinity, 2 smaller caves/holes exist in the project area that may be useful to Townsend's big eared bats. Past monitoring did not detect Townsend's big-eared bats and while there was some evidence of general bat usage, there was not sufficient evidence of the features being an important feature for Townsend's big eared bats (T. Ritter, FWP, pers comm. 1/16/26). Trees and shrubs in the project area could be used for foraging. Proposed activities could disturb Townsend's big-eared bats should they be in the area during proposed activities. Modifications to potential foraging habitats could occur, but considerable amounts of trees and shrubs would persist in the project and cumulative effects analysis areas. No changes in roosting habitats would be anticipated. Overall, negligible changes to Townsend's big-eared bats use of the project area or cumulative effects analysis areas would be anticipated.

W-11 During preparations for previous past timber management activities in the project area, both Cooper's hawks and northern goshawks were detected in the project area and mitigations were applied to minimize effects to those species. Field work associated with this proposal occurred towards the end of the nesting season and neither species was detected, which may or may not mean they are continuing to use the project area given the time of year. Both species tend to re-use territories, so some use of the project area is possible. Should a nest be identified in the project area, additional mitigations would be incorporated that could include a combination of timing and retention mitigations. The resultant stands would be more open, contain fewer large trees, fewer snags, more coarse woody debris, fewer areas of dense mid-aged forest, but would perpetuate some small openings for additional prey species; overall a reduction in prey availability would be anticipated, but use by goshawks or Coopers hawks for foraging could persist. Similarly, proposed pre-commercial thinning could modify foraging habitats, but would not be expected to appreciably alter any potential nesting habitats. A decrease in future occupancy of any potential nest sites in the project area would be likely following proposed treatments.

W-12 Some elk winter range exists in the southern portion of the project area (299 acres, 26%); winter ranges for the other big game species do not appear to exist in the project area. Approximately 1,046 acres (91%) in the project area appear to have sufficient canopy closure to be providing snow intercept and thermal cover attributes for big game; however ongoing insect and disease issues are altering the ability of these stands to provide snow intercept and thermal

cover. Evidence of non-winter use by deer and elk was noted during field visits. Within the cumulative-effects analysis area, big game species are fairly common and winter range for deer and elk are fairly widespread in the lower elevation areas along the Clark Fork River. Roughly 2,212 acres (5%) of white-tailed deer, 8,349 acres (20%) of mule deer, 10,206 acres (24%) of elk, and 346 (<1%) of moose winter ranges exist in the cumulative effects analysis area. There are roughly 707 acres (22%) on DNRC-managed lands dominated by Douglas-fir, ponderosa pine, and mixed conifers that appear to have sufficient canopy closure to be providing snow intercept and thermal cover attributes for big game; however, like the project area, ongoing insect and disease issues are likely altering the capacity of these stands as well. Similarly, on other ownerships in the cumulative effects analysis area, roughly 7,328 acres (19%) of sawtimber and pole timber stands likely have adequate canopy closure to serve as thermal cover exists, however ongoing insect and disease issues are also likely altering the ability of these stands to provide thermal cover and snow intercept. Furthermore, some of those stands are too high in elevation to be suitable for winter thermal cover. Human disturbance within the winter range is associated with residential development, agricultural activities, recreational snowmobile use, commercial timber management, several roadways, including Highway 90, and Montana Rail Link railroad.

Proposed activities could occur during the winter or non-winter periods. Some potential for disturbance to wintering big game could occur with any activities that may occur during the winter period. Proposed activities conducted during the non-winter period would not disturb wintering big game but could disturb big game species using the project area during the non-winter period, however given the time of the year, the general use patterns, and the availability of other habitats in the vicinity, the potential effect to big game would be minor. Proposed commercial harvesting activities would occur on roughly 91 acres (30%) of elk winter range, with the majority being proposed to receive sanitation and sanitation with prescribed burning treatments, where ongoing insect and disease has already likely altered canopy closure and ability of those stands to function as elk winter range. Proposed activities would reduce canopy closure and potential winter use by big game on roughly 740 acres (71%) that likely have attributes facilitating considerable winter use by big game, however ongoing insect and disease concerns are altering the ability of these stands to provide big game thermal cover. Following proposed activities, canopy closure in these stands would be reduced, which would reduce habitat quality for wintering big game. Some pockets of cover would persist in the project area that likely would provide thermal cover and snow intercept capacity for big game as well as opportunities to move through the area in areas of reduced snow loads. Within the proposed units, increases in forage production could benefit big game in the short-term. In general, it could take 30 to 50 years for the stands in the proposed units to regenerate and attain a size capable of providing thermal cover for big game. Proposed pre-commercial thinning would occur outside of mapped winter range and in areas where extensive use by wintering big game would be unlikely; overall proposed pre-commercial thinning would not appreciably alter winter range attributes but could shorten the time before some of these stands could provide some of these attributes in the future. Similarly, proposed prescribed burning would also largely avoid mapped winter ranges (15 acres of elk winter range potentially affected) and would occur in areas where snow intercept and thermal cover would be reduced with proposed commercial treatments. Overall limited big game use would be anticipated during the winter, but the area may provide some foraging resources for wintering big game, particularly in lower snow years. Potential disturbance to wintering big game would be additive in the cumulative effects analysis area to other forms of disturbance, including timber management, numerous open roads, human recreation, and a variety of human developments. Further reductions in thermal cover and snow intercept would be additive to losses from recent timber management, residential land clearing, recent wildfires, and other disturbances in the cumulative effects analysis area. Continued use

of the larger winter ranges would be anticipated at levels similar to present levels following proposed treatments.

W-13 The project area is adjacent to a sizable piece block of land enrolled in the Block Management Area Program, which facilitates non-motorized public access for the purpose of recreational hunting. While there is only 1 access point to the BMA, some use of the project area is possible. Hiding cover (750 acres; 65%) is somewhat limited in portions of the project area due to past wildfires, past timber management, ongoing insect and disease issues, as well as the natural openness of some of the habitats in the project area; similarly hiding cover is moderate in the cumulative effects analysis area, with many of these same limiting factors influencing big game hiding cover. There are no open roads in the project area. Some non-motorized access to the project area exists given the presence of several privately controlled ranch roads in the area, the 7.2 miles of restricted roads (4.0 mi./sq. mi., simple linear calculation) in the project area, and the proximity to lands enrolled in the Block Management Program. The project area should be distant enough from open roads with adequate cover to be able to contribute to a block of big game security habitats in the vicinity. A portion of this block was affected by the Ryan Gulch fire in 2000, which removed some of the hiding cover in the project area. In the cumulative effects analysis area, access for recreational hunting is potentially rather low given the private ownership in the vicinity, but hunter access and use patterns afforded by private access is unknown.

Tree density within proposed commercial harvest units would be reduced on approximately 664 acres, further reductions in tree density would occur with pre-commercial thinning and prescribed burning, including 180 acres that would occur outside of proposed commercial units. Hiding cover would be reduced on most of the 492 acres (65%) of hiding cover proposed to receive commercial treatments. Meanwhile, proposed activities in habitats that are not presently providing hiding cover (172 acres) would slow the development of those attributes into the future. Some hiding cover in the form of brush, shrubs, and sub-merchantable trees would persist in several of the units, albeit at a reduced level from the existing condition. Additional reductions in big game hiding cover would occur with the proposed pre-commercial thinning and prescribed burning, including an additional 4 acres (<1%) of potential hiding cover that would not receive commercial treatments; although hiding cover would be expected to persist in proposed pre-commercial thinning units and in un-treated portions of the project area. depending on the resultant stand densities following proposed treatments. The retention of structure within proposed units and unharvested areas between the various units, including riparian habitats would reduce the potential effects of the hiding cover reductions. Generally, reductions in hiding cover associated with proposed commercial treatments, pre-commercial treatments, and prescribed burning would reduce the quality of areas in the project area that may contribute to landscape scale big game security habitats, but the project area could continue to be usable by big game species to avoid hunting pressure. Some increases in sight distance in the project area would be anticipated; these increases in sight distances could increase big game vulnerability to hunting mortality as hunters would be able to detect big game at longer distances in proposed units. Increases in forage production in proposed units could benefit big game in the short-term. No changes in open roads or motorized access for the general public would occur. During all phases of the project, any roads opened with project activities would be restricted to the public and closed after the completion of project activities. Minor increases in non-motorized access would occur with the proposed construction of 1.0 mile of new permanent road. Numerous contract stipulations would minimize the effects on existing big game security habitat by prohibiting contractors from carrying firearms while conducting contract operations and prohibiting contractors from accessing restricted areas for other purposes, such as hunting. Collectively, the alterations of cover could reduce the quality of big

game security habitat in a small portion of the cumulative effects analysis area and would be additive to past reductions in the cumulative effects analysis area. No changes in public, motorized access or non-motorized access would be expected, which would not affect big game vulnerability in the cumulative effects analysis area. Hiding cover on a small amount of potential big game security habitats would be altered, but the no appreciable changes in potential usefulness of the existing block of big game security habitats would be anticipated. Overall minor effects to big game security habitats would be expected given the small amount of area that would be altered, the location of those changes, the lack of changes in open roads in the project area, and the levels of use by big game in the vicinity; big game security habitats would persist in the cumulative effects. Negligible effects to big game survival would be anticipated.

W-14 The Lower Blackfoot bighorn sheep herd inhabits the vicinity of the project area and this herd may occasionally use the project area during the winter or non-winter periods. Generally, this population of sheep appears to be relatively stable to increasing given the limited hunting access (MFWP 2010). The project area is located in the mid elevations in the vicinity and likely serves as summer and winter range. Bighorn sheep winter range tends to be low-elevation, south-facing slopes with escape cover in proximity to foraging areas (MFWP 2010). Portions of the project area likely provide these attributes in most normal winters; steeper terrain in the vicinity provide bighorn sheep escape cover. Forage for bighorn sheep in the project area has likely been reduced with modern fire suppression, Douglas-fir encroachment, and weed infestation. Ongoing timber management in the cumulative effects analysis area could be disturbing bighorn sheep and/or altering existing habitats. Proposed activities that may occur during the winter months could disturb or displace wintering bighorn sheep. Similarly, any bighorn sheep use during the nonwinter period could be disturbed by proposed activities during those time periods, but would occur when sheep are likely using higher elevations. Generally, proposed activities could introduce noise and disturbance to bighorn sheep in the vicinity. Proposed activities would mimic natural fire regimes and could reverse some of the bighorn sheep habitat degradation due to fire suppression and conifer encroachment that has occurred in the vicinity. Some increases in forage production could be possible with the increases in grasses that could develop in the project area. No long-term disturbance or loss of winter range attributes would occur and overall continued use of the vicinity by bighorn sheep would be expected following proposed activities.

Wildlife Mitigations:

- A DNRC biologist will be consulted if a threatened or endangered species is encountered to determine if additional mitigations that are consistent with the administrative rules for managing threatened and endangered species (ARM 36.11.428 through 36.11.435) are needed.
- Motorized public access will be restricted at all times on restricted roads that are opened for harvesting activities; signs will be used during active periods and a physical closure (gate, barriers, equipment, etc.) will be used during inactive periods (nights, weekends, etc.). These roads and skid trails would be reclosed to reduce the potential for unauthorized motor vehicle use.
- Snags, snag recruits, and coarse woody debris will be managed according to *ARM 36.11.411* through *36.11.414*, particularly favoring western larch and ponderosa pine. Clumps of existing snags could be maintained where they exist to offset areas without

sufficient snags. Coarse woody debris retention would emphasize retention of downed logs of 15-inch diameter or larger.

- Contractors and purchasers conducting contract operations will be prohibited from carrying firearms while on duty.
- Food, garbage, and other attractants will be stored in a bear-resistant manner.
- Should a raptor nest be identified in or near project activities, activities will cease and a DNRC biologist will be contacted. Site-specific measures will be developed and implemented to protect the nest and birds prior to re-starting activities.
- Retention of patches of advanced regeneration of shade-tolerant trees in mapped Canada lynx habitats would break-up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx.
- In pre-commercial thinning units, retain small shade tolerant trees (such as sub-alpine fire and spruce to provide potential habitat structure for snowshoe hares by increasing the levels of horizontal cover and accelerating the development of multi-storied stands.
- Provide connectivity by maintaining corridors of unharvested and/or lighter harvested areas along riparian areas, ridge tops, and saddles.

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				Y	1
Dust		X			X				X				Y	2

Table 12. Air Quality impacts of No-Action and Action Alternative.

Comments:

- 1.) Smoke associated with the Action Alternative could be detrimental to public health.
- 2.) Dust impacts could affect individuals who live along the proposed gravel haul route during proposed timber harvesting activities, mainly log hauling.

Air Quality Mitigations:

1. Smoke: Direct effects (burn personnel) and secondary impacts (public) will be mitigated by burning in accordance with the Montana/Idaho Airshed Group restrictions. Burning will only be conducted when conditions are conducive to good smoke dispersion in accordance with the MIAG approval process. Direct effects will be mitigated by burning in accordance with health/safety elements within approved RX burn plans.

2. Dust: If necessary, such impacts will be mitigated using dust abatement protocols.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

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 proposed 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 palaeontologic 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 proposed project-related activities, all work will cease until a professional assessment of such resources can be made.

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				N/A	
Aesthetics	X				X				X				N/A	1
Demands on Environmental Resources of Land, Water, or Energy	X				X				X				N/A	
Action														
Historical or Archaeological Sites	X				X				X				N/A	
Aesthetics		X			X				X				Yes	1
Demands on Environmental Resources of Land, Water, or Energy	X				X				X				N/A	

Table 13. Archaeological, aesthetic, and environmental impacts of No-Action and Action Alternatives.

Comments:

- 1.) Aesthetics: Timber harvesting operations and forest improvements will have some direct impacts on the overall structure and visual appeal of the project area. These impacts include a change in the density of forested habitats and vegetative cover, impacts from road construction and skid trails, and visual impacts to land cover from prescribed fire.

Mitigations:

- 1.) Aesthetics: The project area is isolated from the general public and landlocked by other private timberlands owners and large ranches. Proposed forestry activities will blend in with adjacent private lands that have been managed for timber in the past. The project area does not fall within the viewshed of any highly trafficked ecological/natural areas. Impacts from operations are mitigated through BMP's and standard forestry operating procedures like brushing skid trails, grass seeding roads, and operating during dry or frozen conditions. Temporary visual impacts to landcover from RX fire and timber harvesting are relatively short-term and designed not to leave lasting impacts.

Impacts on the Human Population

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

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	X				X				X					
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment	X				X				X					
Local Tax Base and Tax Revenues	X				X				X					
Demand for Government Services	X				X				X					
Access To and Quality of Recreational and Wilderness Activities	X				X				X					
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					
Action														
Health and Human Safety		X			X				X				Y	1

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		
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				Y	2
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	

Table 14. Human population impacts of No-Action and Action alternatives.

Comments:

- 1.) There is always inherent risk associated with timber harvesting practices and prescribed fire. Accidents can and do happen with both activities. Prescribed fire impacts to health and human safety are primarily associated with the direct implementation of burning activities or when a controlled prescribed fire “escapes” and has the potential of burning onto inhabited adjacent landowner properties. Timber harvesting impacts to health and human safety are primarily associated with the operation of heavy equipment, felling, and log hauling.
- 2.) The proposed project area is inaccessible by the general public as it is “landlocked” by adjacent private landowners. However, adjacent landowners can access the proposed project area by non-motorized means with the appropriate conservation license. The DNRC does not track specific recreational activities (non-special recreation use license holders) within Trust Land ownership. A possible public closure may be necessary to implement proposed RX burn activities.

Mitigations:

- 1.) Health and Human Safety: Impacts to health and human safety will be mitigated by following the safety protocols outlined in both the proposed timber sale contract and RX burn plan.
- 2.) Access to and Quality of Recreational and Wilderness Activities: Temporary closures within the proposed project area would include notification that may include, but would

not be limited to, signage, email/phone/text notification, written notification. Temporary closures would be short in duration.

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 Common Schools 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 \$111,600 based on an estimated harvest of 2 million board feet (12,400 tons) and an overall stumpage value of \$9.00 per ton. Additional estimated Forest Improvement fees of \$3.20/ton would be collected for all sawlog loads. 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 proposed pre-commercial thinning and planting would initially generate costs to the Trust; however, this would be an investment in increased productivity for the project area. It is expected this increased productivity would result in increased merchantable volume, available at a later date.

Direct costs associated with pre-commercial thinning are estimated to be around \$54,300 at a cost of \$300/acre. This estimate is assumed from recent PCT projects contracted at SWLO (Southwestern Land Office).

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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: Clark Cederberg
Title: Management Forester
Date: May 17, 2026

Finding

Alternative Selected

The Action Alternative meets the Project Need and the specific project objectives as described on page 2 of the EA. The Action Alternative would produce an estimated total revenue value of \$111,600, while providing a mechanism whereby the existing timber stands would be moved towards conditions more like those which existed historically.

The analysis of identified issues did not disclose any reason compelling the DNRC to not implement the timber sale.

The Action Alternative includes mitigation activities to address environmental concerns identified during both the Public Scoping phase and the project analysis.

Significance of Potential Impacts

Soils- Though some detrimental disturbance (<20%) is inevitable when operating heavy equipment in the woods, there is low risk of low-level effects to long-term loss of soil productivity because of implementing the Action Alternative. Leaving 10-15 tons of large, woody debris on site will provide for long-term soil productivity. Harvest mitigation measures such as skid trail planning and season of use limitations will limit the potential for severe soil impacts.

Water Quality- Due to harvest systems utilized, location and size of harvest units relative to stream channels, implementation of Forest Management BMPs, 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.

Cumulative Watershed Effects- 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.

Cold Water Fisheries- There are no fish-bearing streams within the project area.

Air Quality-Any slash or broadcast burning conducted as part of the proposed project will be conducted in coordination with the Montana/Idaho Airshed group in order to ensure that ideal smoke dispersion conditions exist prior to ignition and throughout the duration of any burning operations. As a result, impacts to air quality should be minor and short in duration.

Noxious Weeds-Equipment will be cleaned prior to entering the project area, which will reduce the likelihood of weed seeds being introduced onto treated areas. The DNRC will monitor the project area for following harvest and will use an Integrated Weed Management strategy to control weed infestations should they occur.

Forest Conditions and Forest Health-The proposed harvest will begin the process of returning the timber stands within the project area to those conditions that most likely existed on the site(s) prior to organized fire suppression.

Visual Quality-Proposed forestry activities will blend in with adjacent private lands that have been managed for timber in the past. The project area does not fall within the viewshed of any highly trafficked ecological/natural areas. Temporary visual impacts to landcover from RX fire and timber harvesting are relatively short-term and designed not to leave lasting impacts.

Wildlife-The proposed harvest operations present a minimal likelihood of negative impacts to wildlife, including Threatened and Endangered Species and big game species. The potential impacts that do exist have been mitigated to levels within acceptable thresholds.

Economics-The Action Alternative would provide an estimated total revenue value of \$111,600 and does not limit the DNRC's options for generating revenue from this site in the future.

PRECEDENT SETTING AND CUMULATIVE IMPACTS-

The project area is located on State-owned lands, which are "principally valuable for the timber that is on them or for growing timber or for watershed" (**MCA 77-1-402**). The proposed action is similar to past projects that have occurred in the area. Since the EA does not identify future actions that are new or unusual, the proposed timber harvest is not setting precedence for a future action with significant impacts.

Taken individually and cumulatively, the identified impacts of the proposed timber sale are within established threshold limits. Proposed timber sale activities are common practices and none of the project activities are being conducted on fragile or unique sites.

The proposed timber sale conforms to the management philosophy adopted by DNRC in the SFLMP and is in compliance with existing laws, Administrative Rules, and standards applicable to this type of action.

Need for Further Environmental Analysis

☐

EIS

☐

More Detailed EA

☒

No Further Analysis

Based on the following, I find that an EIS does not need to be prepared:

The EA adequately addressed the issues identified during project development, and displayed the information needed to make the pertinent decisions.

Evaluation of the potential impacts of the proposed timber sale indicates that significant impacts to the human environment will not occur as a result of the implementation of the Action Alternative.

The ID Team provided sufficient opportunities for public review and comment during project development and analysis.

Environmental Assessment Checklist Approved By:

Name: Amy Helena

Title: Missoula Unit Manager

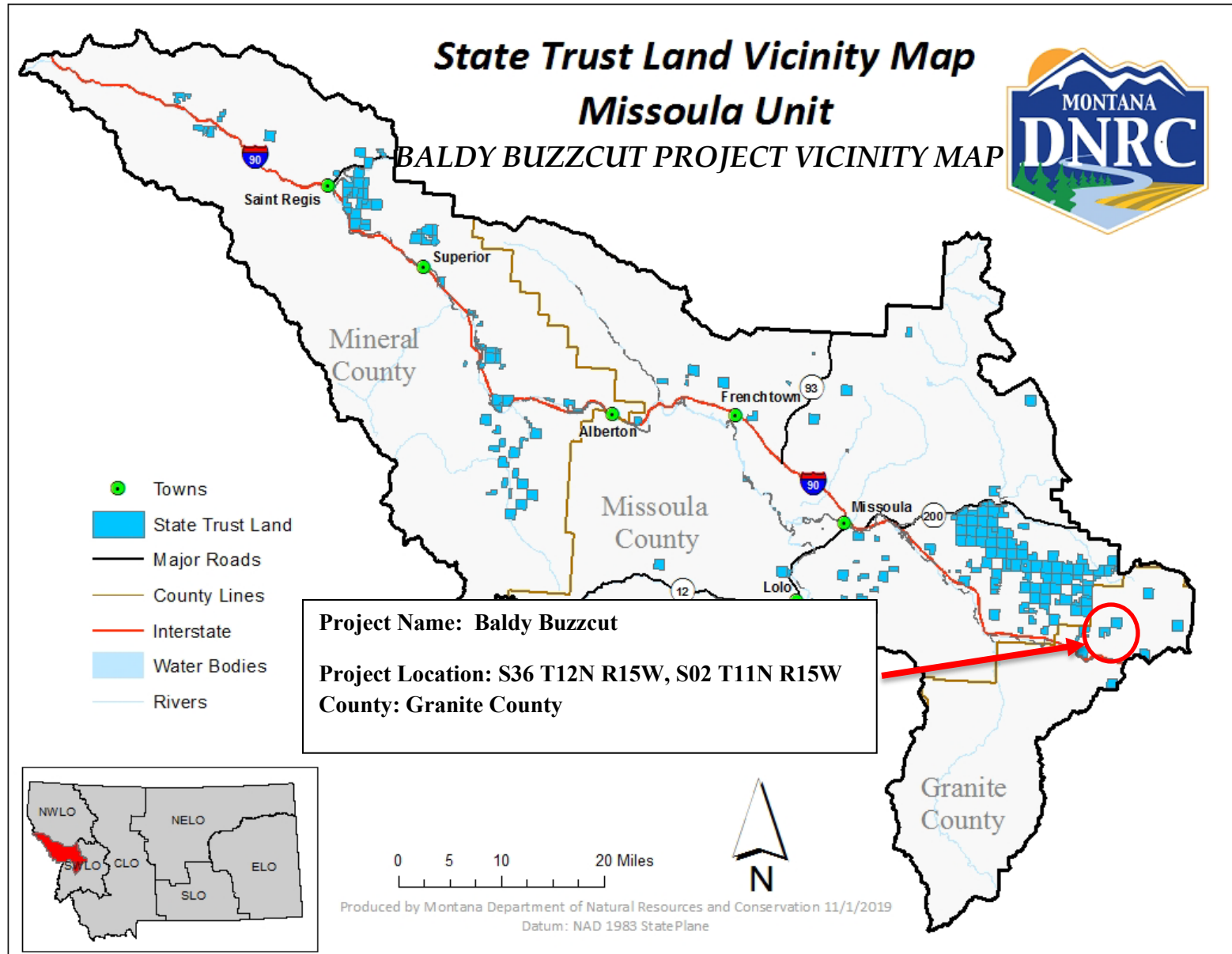
Date: 06/09/2026

Signature:

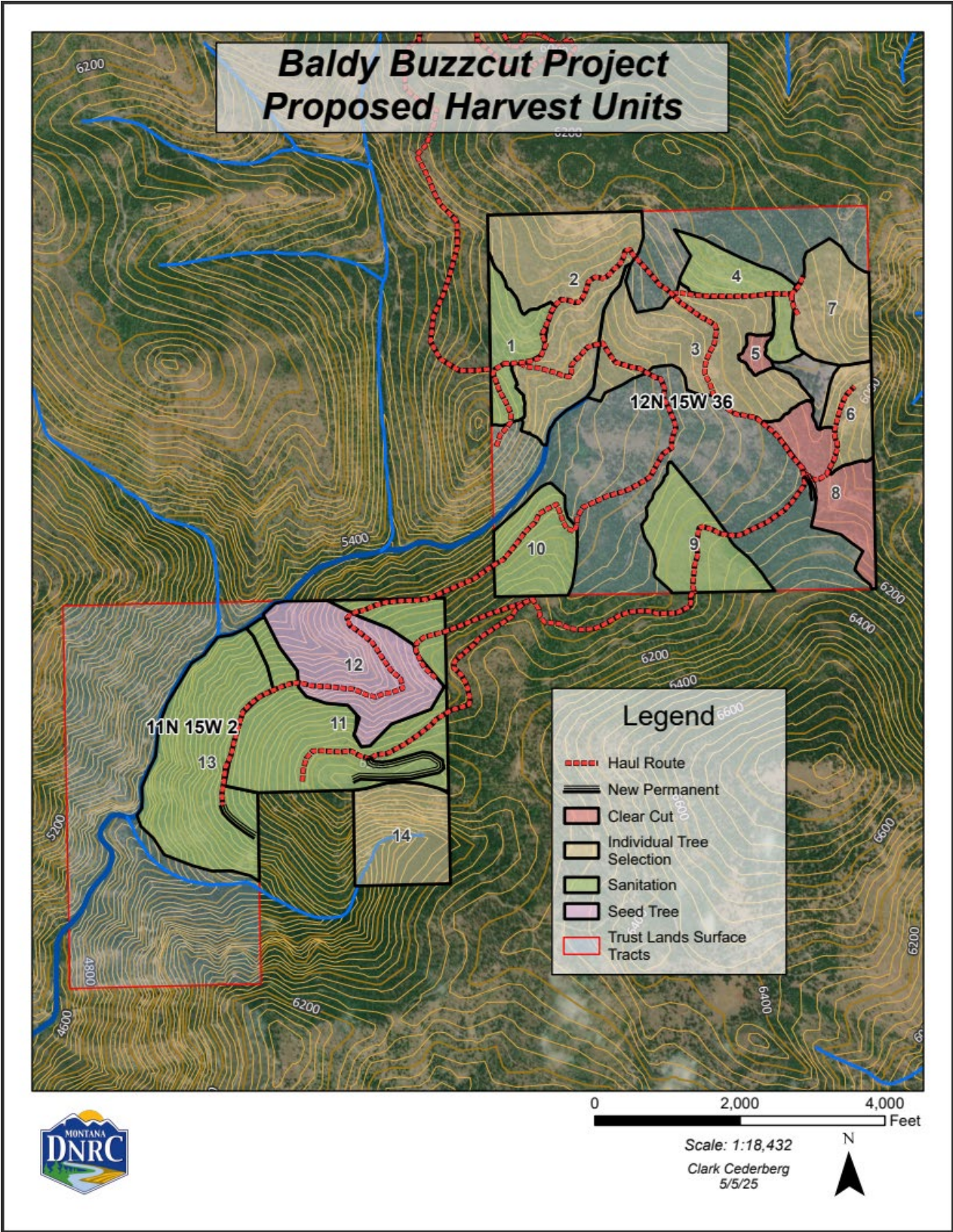


Attachment A - Maps

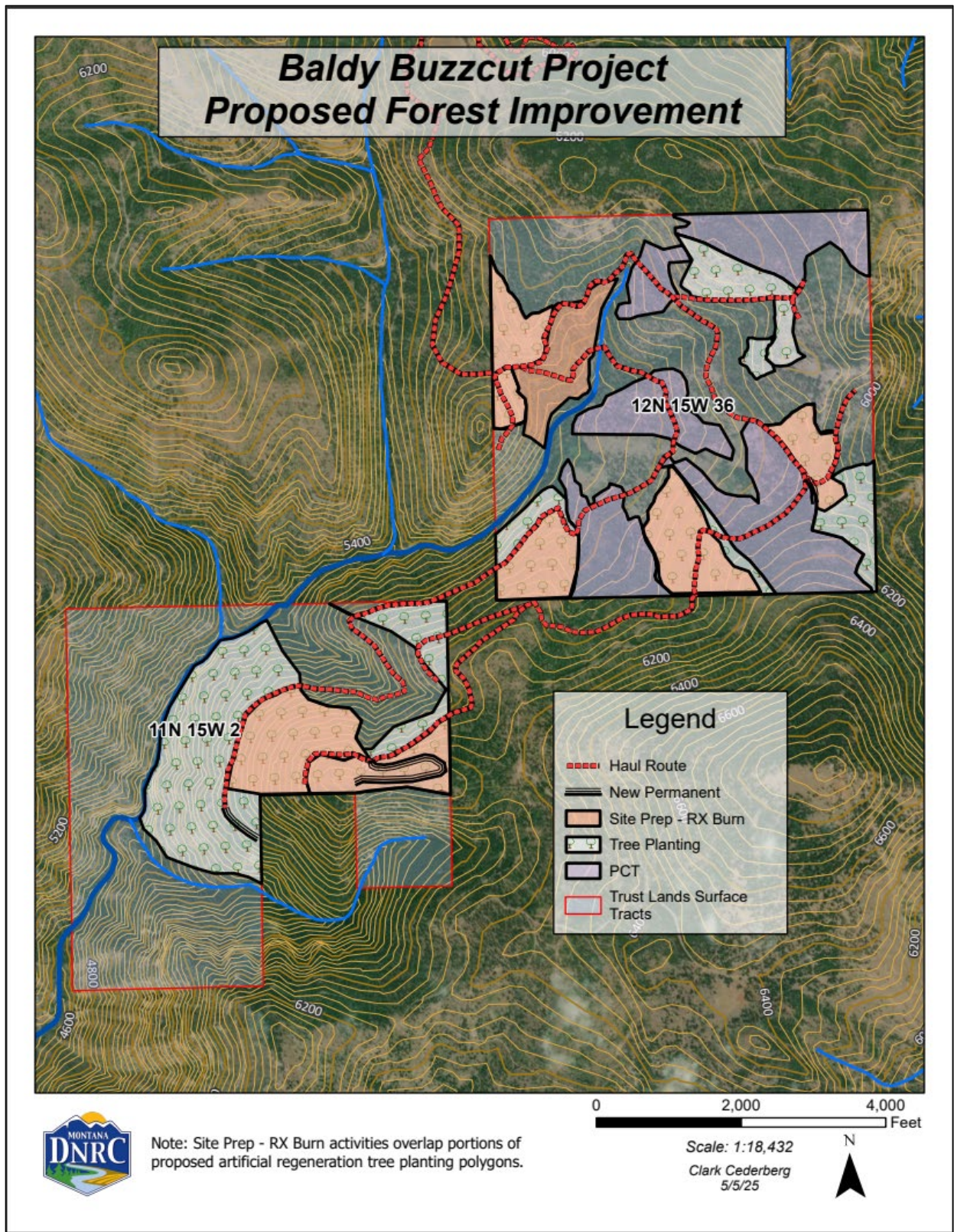
A-1: Timber Sale Vicinity Map



A-2: Proposed Timber Sale PTU Map

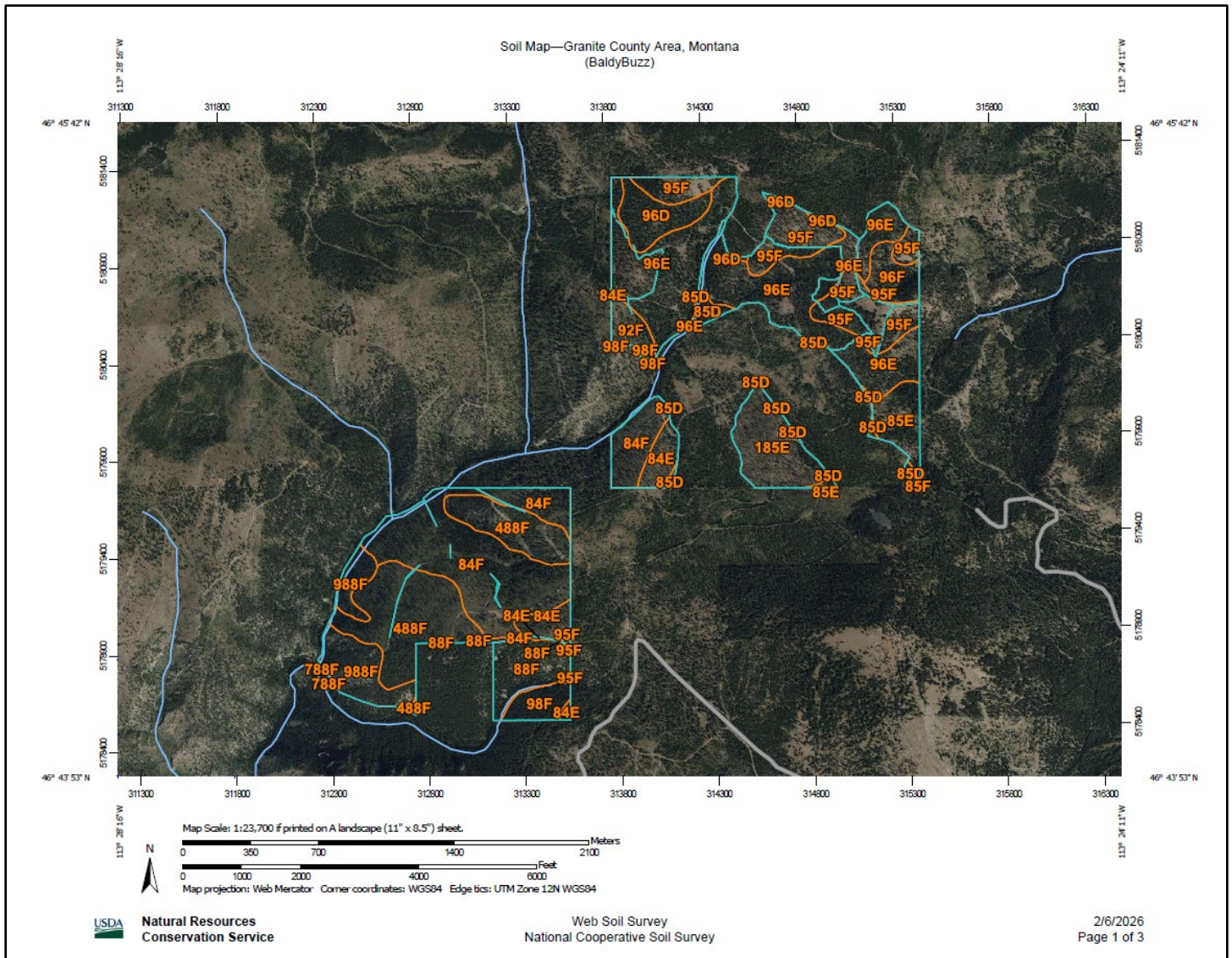


A-3: Proposed Forest Improvement Map



Attachment B – Resource Attachments

Attachment B-1: Soil Map Units within the Project Area



Attachment B-2: Soil Map Unit Descriptions within the Project Area

Map Unit Legend			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
84E	Helmville cobbly loam, cool, 15 to 35 percent slopes	22.2	3.3%
84F	Helmville cobbly loam, cool, 35 to 60 percent slopes	127.3	19.2%
85D	Loberg gravelly loam, 4 to 15 percent slopes	8.8	1.3%
85E	Loberg gravelly loam, 15 to 35 percent slopes	20.3	3.1%
85F	Loberg gravelly loam, 35 to 60 percent slopes	0.1	0.0%
88F	Whitecow gravelly loam, 35 to 60 percent slopes	28.0	4.2%
92F	Whitore gravelly loam, 35 to 60 percent slopes	11.1	1.7%
95F	Yreka gravelly loam, 35 to 60 percent slopes	62.4	9.4%
96D	Worock gravelly loam, cool, 8 to 15 percent slopes	23.9	3.6%
96E	Worock gravelly loam, cool, 15 to 35 percent slopes	160.5	24.2%
96F	Worock gravelly loam, cool, 35 to 60 percent slopes	15.7	2.4%
98F	Trapps gravelly loam, 35 to 60 percent slopes	12.9	1.9%
185E	Relyea-Helmville complex, 15 to 35 percent slopes	37.7	5.7%
488F	Whitecow gravelly loam, cool, 35 to 60 percent slopes	95.4	14.4%
788F	Whitecow, cool-Rock outcrop complex, 35 to 60 percent slopes	0.0	0.0%
988F	Whitecow-Rock outcrop complex, 35 to 60 percent slopes	38.1	5.7%
Totals for Area of Interest		664.5	100.0%

Timber Sale: Baldy Buzzcut

Cutting Unit: 1,4,9,10,11,13

EA/EIS: Baldy Buzzcut

Field Contact: Clark Cederberg

Land Office: SWLO
Unit Office: MISSOULA
TRS: T12NR15WS36,
T11NR15WS02

Sale Type: Timber Sale
Planned Sale Date: 06/01/2026
Planned FY: 2027

Acres: 311
Expected MBF/Acre: 2.7
Est. Harvest Volume (MBF): 840

BIODIVERSITY INFORMATION	
Losensky Cover Type: Douglas-fir	Old Growth: Not Old Growth
Desired Future Condition: Douglas-fir	Old Growth Rx: N/A
Habitat Type Group: Warm and Dry – Moderately Cool and Dry	Pre-Harvest Est. Old Growth Acres: N/A
Age Class: 150-199 yrs.	Post Harvest Est Old Growth Acres: N/A

UNIT/STAND DESCRIPTION
The stands within these PTUs were intensively managed during the last timber harvest entry. All of the proposed units are single-storied, nearly pure Douglas-fir stands in the PSME habitat group; scattered individual ponderosa pine and lodgepole pine are present in the units. Current stocking in the proposed units ranges from approximately 22-53 trees per acre (TPA). On average, diameters range from approximately 14-18" dbh. A large majority of the overstory trees in these PTUs have been impacted by a combination of multiple years of heavy defoliation and environmental factors. The percentage of trees impacted is nearly 80%. Impacted trees are in various stages of degradation with dead tops, <35% crown ratio, faded foliage, and, in some cases, dead. Most of the acres in these units have very little to no regeneration in the understory. Where there is regeneration, much of it has been impacted by defoliators, resulting in stunted growth, top kill, and mortality. There is an abundance of Douglas-fir snags located in portions of the units, mainly located along ridgelines and scattered throughout the units. Most of the snags are between 14"-18" dbh. Many snags have blown over or broken off. There is less than 1 snag/acre greater than 21" dbh in these units. Snag recruits are numerous with many trees in advanced forms of decay.

TARGET STAND CONDITIONS
The objectives of the prescription are to capture the value of dead and dying timber impacted by forest pests. Reduce the overall amount of forest pest activity by reducing the food source. Promote the growth and recruitment of phenotypically superior "resistant" trees. Increase tree species diversity by planting early seral species that are not impacted by current defoliator infestations. Target Stand Conditions: The overstory should consist of healthy, phenotypically superior Douglas-fir with a density of 4-14 TPA on average depending on the condition of acceptable leave trees in the units. All ponderosa pine and lodgepole pine should be retained and present in the overstory composition. Average diameter of leave trees should not differ much from current levels, as budworm is affecting trees from all size classes. 2 Snag and 2 snag recruits 21"+ dbh will be retained and present when possible. Smaller snags will be left in the next largest size class if a sufficient amount 21"+ trees are not present. Spacing between leave trees will not be uniform. Some trees may be grouped together while others removed completely. Large openings should be present in the canopy. Some scarification to the seed bed will be present but not

uniform throughout the units. Advanced Douglas-fir regeneration should remain relatively unimpacted from current conditions.

PRESCRIBED TREATMENT

Silvicultural Treatment: Sanitation	EA/EIS Alternative: A	Harvest Method: Combination
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LEAVE / CUT TREE INFORMATION

Units 1,4,9,10 are marked to **LEAVE**. Units 11 and 13 are **NOT** marked.

Retain all ponderosa pine and lodgepole pine.

Trees to be harvested are those that have been impacted by forest pests and/or environmental stress.

Cut Tree Specifications:

- Dead tops
- Less than 30% live crown ratio
- Faded crowns with less than 50% crown density

Retain all snags where possible. At a minimum, 2 snags and 2 snag recruits per acre, 21"+dbh should be retained.

Retain snags from the next largest size class if a sufficient number of 21+" snags are not present. Snags do not need to be evenly distributed throughout the unit.

SITE PREP and REGENERATION

Site Prep Method: RX fire (units 1,9,10,11); Mechanical-logging (units 4,13)	Site Prep Accomplished By: within 3-years post harvest	Site Prep Date: 2029-30
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Regeneration Type: Artificial Regeneration

Planting Information:

Unit:

1 – PP/DF – 222tpa

4- PP/DF – 222tpa

9,10,11 ,13 – PP/DF/WL – 222tpa

COMMENTS

- **LANDING AND DECKING AREA CLEANUP**
- **SLASHING OF LOGGING-DAMAGED TREES REQUIRED**
- **ALTERNATE YARDING SYSTEMS MAY BE APPROVED**
- **PROTECTION OF RESIDUAL TIMBER**
- **DELETION OF AREAS WITH BLIND LEADS**
- **EQUIPMENT RESTRICTION ZONE, STREAMSIDE MANAGEMENT ZONE**

Timber Sale: Baldy Buzzcut

Cutting Unit: 2, 3, 6, 7, 14

EA/EIS: Baldy Buzzcut

Field Contact: Clark Cederberg

Land Office: SWLO

Sale Type: Timber Sale

Acres: 252

Unit Office: Missoula

Planned Sale Date: 6/1/2026

Expected MBF/Acre: 3.6

TRS: T12N R15W S36, T11N R15W

Planned FY: 2027

Est. Harvest Volume (MBF):907

S02

BIODIVERSITY INFORMATION	
Losensky Cover Type: Douglas-fir	Old Growth: Not Old Growth
Desired Future Condition: Douglas-fir	Old Growth Rx: N/A
Habitat Type Group: Cool and moist – Moderately Cool and Moist – Moderately Warm and Dry	Pre-Harvest Est. Old Growth Acres: N/A
Age Class: 150-199	Post Harvest Est Old Growth Acres: N/A

UNIT/STAND DESCRIPTION
These PTUs are nearly pure, multi-storied Douglas-fir stands with a small component of lodgepole pine and ponderosa pine in the overstory. Current upper level sawtimber stocking is approximately 70 to 80 trees per acre, and total merchantable stocking is close to 100 trees per acre. Average diameters range from about 13 to 16 inches dbh. The midstory is composed primarily of suppressed Douglas-fir and smaller-diameter lodgepole pine. The overstory is partially impacted by budworm; however, the severity of impact is much lower than in the PTUs described in the previous group. Most of the subalpine fir has succumbed to forest pests, and a small number of large-diameter Engelmann spruce trees persist in riparian areas. The understory consists primarily of Douglas-fir advanced regeneration, with lodgepole pine abundant in openings that receive sufficient sunlight. The quality of the Douglas-fir regeneration is poor, with many individuals affected by budworm, grazing, and environmental stressors. Some lodgepole pine regeneration has also been impacted by budworm where it occurs near overstory Douglas-fir. The dominant understory forb communities in these PTUs are beargrass/twinflower, except in unit 14, where snowberry/pinegrass communities occur in areas that are not decomposed granite or rock scree. Areas supporting palatable forbs show evidence of grazing impacts. Current snag densities are, on average, at or above 2 tpa. Many snag recruits are present throughout all units and are mostly comprised of large decadent Douglas-fir or ponderosa pine 22"+ dbh.

TARGET STAND CONDITIONS
The objectives of the prescription are to capture the value of dead and dying timber impacted by forest pests. Reduce the overall amount of forest pest activity by reducing the food source. Promote the growth and recruitment of phenotypically superior "resistant" trees. Increase tree species diversity by planting early seral species that are not impacted by current defoliator infestations. Target Stand Conditions: Post-harvest, unit 1 should consist of a distributed multi-storied canopy of Douglas-fir and ponderosa pine. The canopy will be patchy, as trees will be harvested individually and in groups. Conditions should mimic those of a low-intensity disturbance, removing the weakest and lowest vigor trees in the stand. Only the highest quality (regardless of size class) trees should be retained. The density of leave trees should be around 30% of current stocking levels to capture all the highest risk trees, especially those that will not survive until the next entry. Ground disturbance should be

sufficient (>30%) to encourage the establishment of regeneration. Large snags and snag recruits will be dispersed throughout the unit. Existing patches of advanced regeneration should remain intact.

PRESCRIBED TREATMENT

Silvicultural Treatment: Individual Tree Selection

EA/EIS Alternative: A

Harvest Method: Combination

LEAVE / CUT TREE INFORMATION

Unit 2 is marked to LEAVE. The other units are **NOT** marked but may contain sample-marked areas.

Retain all ponderosa pine and lodgepole pine.

Trees to be harvested are those that have been impacted by forest pests, poor-quality trees, and co-dominants.

Retain 40-50 tpa when possible. Individual trees and groups of healthy trees may be retained.

Cut Tree Specifications:

- Dead tops
- Less than 30% live crown ratio
- Faded crowns with less than 50% crown density

Retain all snags where possible. At a minimum, 2 snags and 2 snag recruits per acre, 21"+dbh should be retained.

Retain snags from the next largest size class if a sufficient number of 21+" snags are not present. Snags do not need to be evenly distributed throughout the unit.

SITE PREP and REGENERATION

Site Prep Method: Mechanical - logging

Site Prep Accomplished By: Concurrent with logging

Site Prep Date: Concurrent with logging

Regeneration Type: Natural

Planting Information:

If successful regeneration has not been established after 3 years post-harvest, alternative plans for may be considered.

COMMENTS

- **LANDING AND DECKING AREA CLEANUP**
- **SLASHING OF LOGGING-DAMAGED TREES REQUIRED**
- **ALTERNATE YARDING SYSTEMS MAY BE APPROVED**
- **PROTECTION OF RESIDUAL TIMBER**
- **DELETION OF AREAS WITH BLIND LEADS**
- **EQUIPMENT RESTRICTION ZONE, STREAMSIDE MANAGEMENT ZONE**

Timber Sale: Baldy Buzzcut

Cutting Unit: 5, 8

EA/EIS: Baldy Buzzcut

Field Contact: Clark Cederberg

Land Office: SWLO

Sale Type: Timber Sale

Acres: 38

Unit Office: Missoula

Planned Sale Date: 6/01/2026

Expected MBF/Acre: 1.4

TRS: T12N R15W S36

Planned FY: 2027

Est. Harvest Volume (MBF): 53

BIODIVERSITY INFORMATION

Losensky Cover Type: Douglas-fir	Old Growth: Not Old Growth
Desired Future Condition: Douglas-fir	Old Growth Rx: N/A
Habitat Type Group: Cool and Moist (westside)	Pre-Harvest Est. Old Growth Acres: N/A
Age Class: 150-199(U5), 100-149(U8)	Post Harvest Est Old Growth Acres: N/A

UNIT/STAND DESCRIPTION

The timber within these PTUs were harvested intensively during the most recent entry. Evidence from that harvest indicates that most of the removed timber was lodgepole pine, with some Douglas-fir. The residual trees from the last entry are now entering the sawtimber size classes and have been heavily impacted by defoliators. Nearly all current sawtimber in these PTUs is Douglas-fir. Many residual trees appear to be suppressed, low-quality leave trees with poor form and vigor. Quadratic mean diameter (QMD) for these PTUs is approximately 10 to 12 inches dbh. Stocking in the sawtimber size class is about 35 square feet of basal area per acre. Unit 5 has a somewhat higher tree density, at 68 trees per acre, compared to Unit 8 at 35 trees per acre. Most seedlings and saplings in these units are poor-form Douglas-fir that have been impacted by defoliators. Affected fir are stunted, lack terminal leaders, and exhibit a shrubby growth form. A small proportion of the PTUs support lodgepole pine regeneration, some of which has also been damaged by defoliators.

TARGET STAND CONDITIONS

The objectives of the prescription are to capture the value of dead and dying timber impacted by forest pests. Reduce the overall amount of forest pest activity by reducing the food source. Increase tree species diversity by planting early seral species that are not impacted by current defoliator infestations.

Target Stand Conditions:

All merchantable timber should be removed from these units, including roundwood that meets minimum manufacturing and recovery standards (see comments). Residual timber will only consist of 2 snags and 2 snag recruits/acre. Advanced regeneration will be present throughout the units.

PRESCRIBED TREATMENT

Silvicultural Treatment: Clearcut w/residuals	EA/EIS Alternative: A	Harvest Method: Tractor
--	------------------------------	--------------------------------

LEAVE / CUT TREE INFORMATION

--

- Timber is NOT marked for removal. All trees meeting the minimum manufacturing and recovery standards for roundwood logs will be removed where accessible.
- Snags and snags recruits will be marked to LEAVE.

SITE PREP and REGENERATION

Site Prep Method: Unit 8 – Prescribed Fire, Unit 5-Scarification/spot herbicide	Site Prep Accomplished By: within 3 years post-harvest	Site Prep Date: 2029-30
--	---	--------------------------------

Regeneration Type: Artificial

Planting Information:

- Douglas-fir and lodgepole pine planted at 222 tpa

COMMENTS

LANDING AND DECKING AREA CLEANUP
SLASHING OF LOGGING-DAMAGED TREES REQUIRED
PROTECTION OF RESIDUAL TIMBER
EQUIPMENT RESTRICTION ZONE, STREAMSIDE MANAGEMENT ZONE
ROUNDWOOD REMOVAL REQUIRED

Timber Sale: Baldy Buzzcut

Cutting Unit: 12

EA/EIS: Baldy Buzzcut

Field Contact: Clark Cederberg

Land Office: SWLO

Sale Type: Timber Sale

Acres: 62

Unit Office: Missoula

Planned Sale Date: 6/01/2026

Expected MBF/Acre: 4.8

TRS: T11N R15W S02

Planned FY: 2027

Est. Harvest Volume (MBF):298

BIODIVERSITY INFORMATION

Losensky Cover Type: Douglas-fir	Old Growth: Not Old Growth
Desired Future Condition: Douglas-fir	Old Growth Rx: N/A
Habitat Type Group: Moderately Warm and Dry	Pre-Harvest Est. Old Growth Acres: N/A
Age Class: 150-199	Post Harvest Est Old Growth Acres: N/A

UNIT/STAND DESCRIPTION

The timber within PTU 12 consists primarily of sawtimber-sized Douglas-fir, with a quadratic mean diameter (QMD) of approximately 16 inches dbh. Most of the overstory appears healthy, exhibiting vigorous crowns that show only minor defoliator impact. The unit is currently stocked at about 50 trees per acre, with a basal area of roughly 70 square feet per acre.

Stocking in the lower canopy layers ranges from poor to medium vigor, and some areas lack regeneration entirely. Portions of the existing regeneration have been affected by defoliators. Ninebark and pinegrass are the primary understory plant communities in PTU 12. Evidence of grazing is present in parts of the unit; however, the steeper portions of PTU 12 appear relatively unaffected by grazing.

TARGET STAND CONDITIONS

The objective of this prescription is to create conditions suitable for the establishment of new Douglas-fir regeneration. This will be accomplished by reducing the overall density of overstory trees, retaining health, vigorous individuals for seed, and removing trees impacted by defoliators and environmental stress.

Target Stand Conditions:

The overstory should consist of healthy, vigorous Douglas-fir stocked at 12-17 trees per acre. The understory should have adequate soil disturbance to prep the seed bed for establishment. Patches of existing advanced regeneration will be present in the understory. Ponderosa pine may be present in the overstory, but the stand will be nearly pure Douglas-fir.

PRESCRIBED TREATMENT

Silvicultural Treatment: Seed Tree	EA/EIS Alternative: A	Harvest Method: Tractor
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LEAVE / CUT TREE INFORMATION

The unit is **NOT** marked

Trees to be retained are the largest individuals that are healthy and vigorous.

Retain all ponderosa pine and lodgepole pine.

Leave Tree Specifications:

- Greater than 30% live crown ratio
- DBH greater than 15"
- No symptoms or signs of forest pests
- Straight and sound

Spacing between leave trees will be approximately 50-70' between leave trees.

Retain all snags where possible. At a minimum, 2 snags and 2 snag recruits per acre, 21"+dbh should be retained. Retain snags from the next largest size class if a sufficient number of 21+" snags are not present. Snags do not need to be evenly distributed throughout the unit.

SITE PREP and REGENERATION

Site Prep Method: Mechanical - logging

Site Prep Accomplished By: Concurrent with logging

Site Prep Date: Concurrent with logging

Regeneration Type: Natural

Planting Information:

If successful regeneration has not been established after 3 years post-harvest, alternative plans for regeneration may be considered.

COMMENTS

- **SLASHING OF LOGGING-DAMAGED TREES REQUIRED**
- **ALTERNATE YARDING SYSTEMS MAY BE APPROVED**
- **PROTECTION OF RESIDUAL TIMBER**
- **DELETION OF AREAS WITH BLIND LEADS**
- **EQUIPMENT RESTRICTION ZONE, STREAMSIDE MANAGEMENT ZONE**