Environmental Assessment Checklist

Project Name: Fourmile-Sloway EA Proposed Implementation Date: January 2025 - January 2040 Proponent: Missoula Unit, Southwest Land Office, Montana DNRC County: Mineral

Type and Purpose of Action

Description of Proposed Action:

The Missoula Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing forest management activities on approximately 1,246 acres within the 2,508 acre project area known as the Fourmile-Sloway Project. The project is located approximately 4 aerial miles southeast of St. Regis Montana in the Fourmile area of the Lower Clark Fork Valley (refer to Attachments vicinity map **A-1** and project map **A-2**) and includes the following sections:

Beneficiarv	Legal Description	Total Acres	Treated Acres
Common Schools	T18N R27W 34	425	392
	T18N R27W 35	639	490
Public Buildings	T18N R27W 33	324	147
MSU 2 nd Grant	T18N R27W 27	320	14
MSU Morrill			
Eastern College-MSU/Western College-U of M	T17N R27W 4	640	92
	T18N R27W 34	160	111
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			
	TOTAL	2508	1246

Objectives of the project include:

- Generate revenue for the Common Schools, Public Buildings, MSU 2nd Grant, and Eastern College-MSU/Western College-U of M Trusts.
- Improve stand health and vigor by reducing basal area and preferring early seral species for retention (ponderosa pine and western larch).

- Prefer unhealthy Douglas-fir and western larch for removal before economic value is lost to insect and disease damage.
- Bring stands closer to desired future condition (DFC).
- Reduce fuel loading and the likelihood of a stand replacing fire.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	
Shelterwood	33
Selection	824
Old Growth Maintenance/Restoration	
Commercial Thinning	89
Salvage/Sanitation	300
Total Treatment Acres	1246
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	968
Site preparation/Scarification/Rx	368
Planting	
Proposed Road Activities	# Miles
New permanent road construction	3.2
New temporary road construction	1.9
Road maintenance	11.7
Road reconstruction	1.7
Road abandoned	
Road reclaimed	
Other Activities	

* Some PCT units and Rx units overlap with each other and with harvest units.

Duration of Activities:	15 years
Implementation Period:	2025-2040

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:
 - o May 28, 2024
- PUBLIC SCOPED:
 - The scoping notice was posted on the DNRC Website: <u>https://dnrc.mt.gov/News/scoping-notices</u>
 - The scoping notice was sent to 8 adjacent landowners within a one-mile radius including the US Forest Service and FWP. Mailing addresses listed were verified for accuracy using Montana Cadastral. FMB additionally sent scoping notices to interested parties enrolled on the statewide scoping list.
- AGENCIES SCOPED:
 - Montana Fish, Wildlife and Parks (FWP)
 - Statewide Tribal Agencies
 - US Forest Service (USFS)
 - o Internal Department of Natural Resources and Conservation Staff
- COMMENTS RECEIVED:
 - The only comment received was from Montana Fish, Wildlife and Parks. In the comment FWP suggested retaining/promoting heterogenous stand structures, retaining large diameter snags and dense patches of small diameter trees, and ensuring new roads are gated to protect and improve habitat for a range of game and non-game wildlife species.
- DNRC RESPONSE:
 - The DNRC would like to thank all parties for their comments. All comments were taken into consideration during project planning and development.
 - FWP: Impacts of the Action Alternative to wildlife habitat can be found in the Wildlife Section.

DNRC specialists were consulted, including: Lauren Converse – Project Lead/Forester Patrick Rennie – Archaeologist Garrett Schairer – Wildlife Biologist Andrea Stanley – Soils Scientist/Hydrologist

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

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS

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

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

- Montana Department of Environmental Quality (DEQ)- DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.
- Montana/Idaho Airshed Group- The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2010). As a member, DNRC must submit a list of planned burns to the Airshed Group's Smoke Monitoring Unit describing the type of burn to be conducted, the size of the burn in acres, the estimated fuel loading in tons/acre, and the location and elevation of each burn site. The Smoke Monitoring Unit provides timely restriction messages by airshed. DNRC is required to abide by those restrictions and burn only when granted approval by the Smoke Monitoring Unit when forecasted conditions are conducive to good smoke dispersion.

ALTERNATIVES CONSIDERED:

No-Action Alternative:

 No commercial harvest, pre-commercial thinning, noxious weed management, prescribed burning, site preparation for natural regeneration, road construction, or road maintenance/improvement would occur at this time.

Action Alternative:

- Commercial timber harvest would take place to remove approximately 8 million board feet (MMBF) of timber. Timber would be harvested using a combination of ground-based, skyline, and tethered harvest methods. Silvicultural prescriptions would be developed to meet DNRC desired future conditions (DFCs).
- Approximately 3.2 miles of permanent road construction, 1.7 miles of road reconstruction, and 1.9 miles of temporary road construction would take place. Newly constructed roads would be gated and open for administrative use only.
- Road maintenance and improvements would take place on approximately 12 miles of road used for log hauling and timber harvest.
- Precommercial thinning of 968 acres would be conducted to improve the growth and vigor of advanced regeneration.
- Slash pile burning as well as broadcast burning would occur to prepare for and facilitate the natural regeneration and/or planting of seral species such as western larch (WL) and ponderosa pine (PP).

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including <u>direct, secondary,</u> <u>and cumulative</u> impacts on the Physical Environment.

VEGETATION:

The Project Area falls within climatic section M333D, which was historically 98% forested (Losensky, 1997). This project area ranges in elevation from 2800'-5000'.

History: In 2010, Sections 27, 33, 35, and 425 acres of Section 34 were acquired by Montana DNRC Trust Lands from the US Forest Service during the Lolo Land Exchange. The current stand conditions in the project area have been influenced by past timber management and wildfire activity and/or suppression. There is evidence of past forest management by the USFS in portions of these sections. There has been no commercial timber harvest by the State within the Project Area. In 2018, 135 acres were pre-commercially thinned under the Burr-Eato Contract.

Vegetation Existing Conditions: (see also Attachment B – Unit Prescriptions)

For descriptive purposes, SLI (stand level inventory) delineated stands within the Project Area have been grouped within their respective proposed harvest units. Descriptions of the current stand conditions coincide with the proposed Action Alternative harvest units (Map A-2: Timber Sale Harvest Units). Table **T-1** describes the expected impacts of the Action Alternative to the Montana DNRC's desired future conditions (DFCs). The DFC represents the cover type that DNRC aims to manage toward within a given stand in order to implement its coarse- filter approach to managing for biodiversity (ARM 36.11.404). All proposed silvicultural harvest prescriptions have been designed to move the stands toward the appropriate DFC (see attached prescriptions).

Units 1, 2, 20

The stands within proposed treatment units (PTUs) 1, 2, and 20 primarily consist of a wellstocked multi-storied forest type. The uppermost stratum is dominated by ponderosa pine (PP) 22-24" DBH with scattered Douglas-fir (DF). The mid-story is a more even mix of PP and DF with an average DBH of 12-14". Most regeneration is comprised of DF. Western gall rust is affecting some of the PP but does not appear to be causing mortality. Bark beetles are present in small amounts within the stand (Douglas-fir beetle and flatheaded wood borer in DF and western pine beetle in PP) but not to the same extent as adjacent stands. Knapweed and sulphur cinquefoil are present within the stand, primarily along roadways but interior as well.

Units 3, 4, 5

The stands within proposed treatment units 3, 4, and 5 consist of a medium stocked, multistoried forest type dominated in all levels by Douglas-fir (DF). Within the uppermost and middle stratum there are also western larch (WL15%) and ponderosa pine (PP 5%) with the occasional grand fir (GF). The understory is clumpy and is comprised of DF and GF with scattered WL. PTU 4 has been logged more recently and has more existing regeneration. This stand is affected by many diseases and insects including Douglas-fir beetle, flatheaded fir borer, dwarf mistletoe in both Douglas-fir and western larch, and root rot. This has caused significant mortality within the units and it would be expected for current infestations to continue and cause decline in the health of the stand. Knapweed and sulphur cinquefoil are present within the stand, primarily along roadways but interior as well.

Units 6, 8, 9

The stands within proposed treatment units 6, 8, and 9 are multi-storied and range from moderately to well-stocked. The uppermost stratum is a mix of ponderosa pine (PP 40%), Douglas-fir (DF 30%), and western larch (WL 30%) with average DBH of 18-24". The middle stratum is dominated by DF (60%) with WL (20%) and PP (20%) with average DBH of 8-12". The understory is primarily DF with WL and PP. The understory is clumpy and variable with some areas of high density of areas where no understory exists. Dwarf mistletoe is present in some of the upper and mid-story larch, but not to the same extent as adjacent stands. Douglas-fir beetle and armillaria root rot are also causing low vigor and mortality, primarily in the upper stratum. Spotted knapweed and sulphur cinquefoil are present within the stand, primarily along roadways but interior as well.

Unit 7

This stand is a moderately stocked and multi-storied. It has been logged more recently than surrounding stands and is more open as a result. The upper stratum is primarily comprised of ponderosa pine (70%), with Douglas-fir (DF) (15%) and western larch (WL). The mid-level canopy is an even mix of DF and PP with scattered WL. Dwarf mistletoe is present in portions of the mid-canopy WL population. Regeneration is PP and DF with a component of WL. Knapweed and sulphur cinquefoil are well-established along the roadway.

Unit 10

This is a well-stocked, multi-storied stand. The uppermost stratum is a mix of western larch (WL 50%), Douglas-fir (DF 40%), grand fir (GF 10%) with scattered ponderosa pine (PP). Average DBH is 14-18" with scattered larger diameter (24-26") WL and PP. The middle stratum is dominated by DF (50%) with WL (20%), GF (20%) and LPP (10%) with average DBH of 7-10". The understory is primarily DF with WL and PP. Dwarf mistletoe is affecting WL in the two upper stratum, but not to the same extent as in adjacent PTU 11. The lower stratum has a similar species composition to the middle stratum and is variable throughout the stand. Spotted knapweed and Common St. John's-wort are present within the stand, primarily along roadways.

Units 11, 12, 13

The stands within proposed harvest units 11, 12, and 13 consist primarily of a multi-storied forest type. The uppermost stratum is comprised of western larch (WL 40%), Douglas-fir (DF 30%), and ponderosa pine (PP 20%, the majority of which is found at lower elevations within the stands) with components of grand fir (GF 5%) and lodgepole pine (LLP 5%). The majority of the WL within this stratum show signs of mistletoe infection and the Douglas-fir has reduced vigor. The mid-story is comprised of DF (50%), WL (30%), GF (10%), LPP (10%), and scattered PP. The middle stratum is more vigorous and less affected by insects and disease. The understory is comprised of DF, GF, WL, LPP, and scattered PP. Meadow hawkweed is present within the stands, primarily along roadways.

Units 14, 15

The stands within the proposed treatment units 14 and 15 consist of a well-stocked multi-storied forest type. The uppermost stratum is composed of western larch (WL 50%), Douglas-fir (DF 20%), grand fir (GF 20%), lodgepole pine (LPP 10%) with average DBH of 14-16". The mid-stratum is primarily GF and DF with LPP and WL with average DBH of 5-10". There is scattered western white pine and western red cedar within the middle stratum. The understory is primarily DF and GF with some WL and LPP. The stands within the PTUs are variable and some areas

have no understory and a very sparse overstory with most volume contained within a closed canopy of pole-sized timber. Dwarf mistletoe is affecting WL, though not as severely as in adjacent stands and the dense canopy of the midstory is causing reduced vigor and poor crown volume.

Unit 16

This stand is a multi-storied, well-stocked stand. The uppermost stratum is dominated by Douglas-fir (DF) and ponderosa pine (PP), 60% and 40%, respectively, with an average DBH of 14". There is also scattered western larch (WL) within this stratum. The mid-canopy is comprised of DF (70%), PP (25%), with scattered WL and lodgepole pine (LPP), with an average DBH of 8". Regeneration is primarily DF (80%) and PP (20%). There is some evidence of root rot and bark beetles, primarily affecting Douglas-fir. Knapweed and sulphur cinquefoil are the primary weeds.

Units 17, 19

The stands within the proposed treatment units (PTUs) 17 and 19 primarily consist of a multistoried forest type. The uppermost stratum is composed of western larch (WL 60%) and Douglas-fir (DF 30%) and grand fir (GF10%) with average DBH of 14". The middle stratum is composed of WL, DF, GF, and lodgepole pine (LPP) with an average DBH of 5-9". The understory is healthy and well-stocked DF, GF, with scattered WL. Dwarf mistletoe is affecting much of the WL and DF shows signs of reduced vigor and low crown volume. Knapweed and Canada thistle are present within the stand, primarily along roadways but interior as well.

Unit 18

This is a multi-storied stand. The uppermost stratum is scattered and clumpy. It consists of Douglas-fir (DF), grand fir (GF), western larch (WL), and occasional ponderosa pine (PP). Average diameter (DBH) of trees within this stratum is 16-18". The stand is dominated by the mid-story of average DBH 7-10". This stratum is comprised of DF, GF, WL, PP, lodgepole pine (LPP), and pockets of cottonwoods along draws. The understory is primarily DF and GF. Mistletoe has infected western larch in both the upper and mid-strata.

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Moderately warm and dry (westside)	Low	Ponderosa Pine	100- 149	Ponderosa Pine	Individual/Select Tree Harvest	112
2	Moderately warm and dry (westside)	Low	Ponderosa Pine	150- 199	Ponderosa Pine	Individual/Select Tree Harvest	20
3	Moderately warm and dry (westside)	Low-to- mixed	Western Larch/Douglas Fir	100- 149	Ponderosa Pine	Shelterwood Harvest	33

Table T-1

4	Moderately warm and dry (westside)	Low	Ponderosa Pine	150- 199	Ponderosa Pine	Sanitation	58
5	Moderately cool and moist (westside)	Low-to- mixed	Western Larch/Douglas Fir	150- 199	Ponderosa Pine	Sanitation	90
6	Moderately warm and dry (westside)	Low-to- mixed	Ponderosa Pine	150- 199	Ponderosa Pine	Individual/Select Tree Harvest	93
7	Moderately warm and dry (westside)	Low-to- mixed	Ponderosa Pine	150- 199	Ponderosa Pine	Individual/Select Tree Harvest	31
8	Moderately warm and dry (westside)	Low	Ponderosa Pine	150- 199	Ponderosa Pine	Individual/Select Tree Harvest	91
9	Moderately warm and dry (westside)	Low-to- mixed	Ponderosa Pine	150- 199	Ponderosa Pine	Individual/Select Tree Harvest	15
10	Moderately cool and moist (westside)	Low-to- mixed	Western Larch/Douglas Fir	150- 199	Western Larch/Douglas Fir	Individual/Select Tree Harvest	137
11	Moderately cool and moist (westside)	Low-to- mixed	Ponderosa Pine	100- 149	Ponderosa Pine	Sanitation	93
12	Moderately cool and moist (westside)	Low-to- mixed	Ponderosa Pine	100- 149	Ponderosa Pine	Individual/Select Tree Harvest	22
13	Moderately cool and moist (westside)	Low-to- mixed	Ponderosa Pine	100- 149	Ponderosa Pine	Individual/Select Tree Harvest	47
14	Moderately cool and moist (westside)	Low-to- mixed	Western Larch/Douglas Fir	100- 149	Western Larch/Douglas Fir	Individual/Select Tree Harvest	89
15	Moderately cool and moist (westside)	Low-to- mixed	Mixed Conifer	40-99	Western Larch/Douglas Fir	Individual/Select Tree Harvest	48
16	Moderately warm and dry (westside)	Low-to- mixed	Ponderosa Pine	40-99	Ponderosa Pine	Individual/Select Tree Harvest	44

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17	Moderately cool and moist (westside)	Low-to- mixed	Mixed Conifer	150- 199	Western Larch/Douglas Fir	Sanitation	36
18	Moderately cool and moist (westside)	Low-to- mixed	Mixed Conifer	100- 149	Western Larch/Douglas Fir	Commercial Thinning	89
19	Moderately cool and moist (westside)	Low-to- mixed	Mixed Conifer	100- 149	Western Larch/Douglas Fir	Sanitation	23
20	Moderately warm and dry (westside)	Low-to- mixed	Ponderosa Pine	100- 149	Ponderosa Pine	Individual/Select Tree Harvest	75

<u>Fire Hazard/Fuels</u>: Approximately 640 acres of the Project Area are defined by the Montana Forest Action Plan as at risk from wildfire and/or insects and disease damage. A portion (160 acres) of the 640 acres is located within the Montana Forest Action Plan's Combined Risk area as of January 1, 2025. The proposed harvest units within the Project Area continue to increase in crown continuity and high amounts of dead and dying fuel loading. The fuel loading is exacerbated on steep slopes. This poses a major hazard to adjacent landowners in the event of a sustained crown fire. High severity fire effects would be expected in a large portion (>30%) of the Project Area accompanied with high mortality of the stand in the event of a wildfire with no management (No-Action Alternative). Implementation of the Action Alternative would be expected to increase the risk of wildfire within the first 2-3 drying seasons following harvest (logging slash); however, the severity would be expected to be less severe.

<u>Insects and Diseases</u>: Douglas-fir beetle, flatheaded fir borer, dwarf mistletoe, Armillaria root rot are present within the Project Area are causing mortality and reduced vigor. Within Proposed Treatment Units (PTUs) 11 and 17, the majority of the western larch have been infested with dwarf mistletoe, but a portion of all PTUs show evidence of infestation. Douglas-fir beetle is causing widespread mortality within PTUs 3 and 5 and infestation is continuing to occur and progress throughout adjacent PTUs. It would be expected that implementation of the Action Alternative would reduce the occurrence of insect and disease impacts within the project area.

<u>Sensitive/Rare Plants</u>: Field reconnaissance, as well as the Montana Natural Heritage Program (MTNHP), were used to identify the presence of Species of Concern, including threatened, endangered, or sensitive plant species in the project area. Species of Concern are native species that are considered at risk of extirpation in Montana due to declining populations, threats to their habitats, restricted distribution, or other factors. In addition, MTNHP was used to identify Potential Species of Concern. Potential Species of Concern are defined by the MTNHP as native taxa for which current, often limited, information suggests potential vulnerability. Also included are plant species for which additional data are needed before an accurate status assessment can be made. Four individual Clustered lady's-slippers (*Cypripedium fasciculatum*) were observed during reconnaissance. Montana Natural Heritage Program identified an additional 3 areas of Clustered lady's-slipper within the project area with reported observations from 1997 and 2004. It is ranked G4 (Globally Apparently Secure) and S3 (State-wide Vulnerable). "It is documented from 10 moderate to large populations, 3 historical occurrences

and many additional small occurrences. Most populations occur on National Forest lands. Potential negative impacts to the species have mainly been related to timber harvesting." (Montana Natural Heritage Program website, 2025). Clustered Lady's-slippers appear to be adversely affected by removal of overstory beyond 60% but can tolerate as little as 30% canopy closure in dry habitat types (Lichthardt, 2003).

<u>Noxious Weeds</u>: Existing noxious weeds primarily consist of spotted knapweed (*Centaurea stoebe*), sulphur cinquefoil (*Potentilla recta*), and meadow hawkweed (*Hieracium caespitosum*). These weeds are common within the Project Area as well as the greater Lower Clark Fork drainage, primarily along roadways and other disturbed areas.

					Can	Comment								
Vegetation		Di	irect			Secondary				Cum	ulative		Impact Be	Number
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	miligaled?	
No-Action														
Current Cover/DFCs		Х				Х				Х			Y	1
Age Class	Х					X				Х			Y	2
Old Growth	Х				Х				Х				N/A	3
Fire/Fuels		Χ					X				X		Y	4
Insects/Disease		Х				Х				Х			Y	5
Rare Plants	Х				Х				Х				N/A	6
Noxious Weeds		Х				Х				Х			Y	7
Action														
Current Cover/DFCs		Х				Χ				Χ			Y	1
Age Class		Х			Х				Х				Y	2
Old Growth	Х				Х				Х				N/A	3
Fire/Fuels		Х				Х				Х			Y	4
Insects/Disease		X				X				Х			Y	5
Rare Plants			X			X				Χ			Y	6
Noxious Weeds		Х				Х				Χ			Y	7

Comments:

- Without active management (No-Action Alternative), it would be expected that stands represented by cover types other than the DNRC desired future condition would remain in their current cover type of later seral species and would not be expected to move toward their DFC without a natural disturbance such as wildfire. Silvicultural prescriptions of the Action Alternative were developed to emulate natural disturbance and move the stands toward or retain DNRC desired future conditions.
- 2. Without active management (No-Action Alternative), stands within the project area would continue to have high mortality among mature Douglas-fir (DF) and western larch (WL) within the oldest age class from insect and disease damage as well as wind throw of stems with Armillaria root-rot. The loss of the older age class DF and WL would drive the stand toward a younger age-class stand. Silvicultural prescriptions of the Action Alternative were developed to remove the DF and WL susceptible to disease or currently

dying. It would be expected that stands within the project area, under the Action Alternative, would produce a younger age class in the later seral species such as Douglas-fir. Proposed ITS silvicultural prescriptions of the Action Alternative were developed to move stands within the project area toward uneven management and in the future represent all age classes.

- 3. No old growth stands according to the Green et al. (1992) were located within the project area. 2 stands were identified as possible Old Growth, however after performing a walk-through and consulting with the state silviculturist, they were determined not to meet the necessary criteria as defined by Green et al.
- 4. Approximately 640 acres of the Project Area are defined by the Montana Forest Action Plan as at risk from wildfire and/or insects and disease damage. The Montana Forest Action Plan additionally lists these 640 acres within the Project Area as a priority area for active forest management. Under the No-Action Alternative, the Project Area would continue to have crown continuity and high amounts of dead and dying fuel loading. This poses a major hazard to the Project Area as well as adjacent landowners in the event of a sustained crown fire. The proposed Action Alternative would reduce crown continuity and would be expected to reduce the severity of a wildfire. However, fine fuels from harvesting and pre-commercial thinning would be expected to increase the rate of surface fire spread for a few years after harvesting. The increase of fine fuel loading would be short in duration (1-3 years after the proposed project implementation of each project). Forest floor plants such as forbs and grasses would also likely experience more growth contributing to the fine fuel load.
- 5. Without active management (No-Action Alternative) insect and disease mortality would continue to cause mortality within the Project area. Silvicultural prescriptions of the Action alternative were developed to salvage infested trees as well as increase health and vigor of the residual stand by reducing tree competition, thus increasing the remaining trees' resiliency to bark beetles and pathogens. It would be expected that implementation of the Action Alternative would result in a decrease in the effects of insects/disease.
- 6. Four individual Clustered lady's-slippers (*Cypripedium fasciculatum*) were observed during reconnaissance within PTU 6. Montana Natural Heritage Program identified an additional 3 areas of Clustered lady's-slipper within the project area with reported observations from 1997 and 2004. It is ranked G4 (Globally Apparently Secure) and S3 (State-wide Vulnerable). "It is documented from 10 moderate to large populations, 3 historical occurrences and many additional small occurrences. Most populations occur on National Forest lands. Potential negative impacts to the species have mainly been related to timber harvesting." (Montana Natural Heritage Program website, 2025). Clustered Lady's-slippers appears to be adversely affected by removal of overstory beyond 60% but can tolerate as little as 30% canopy closure in dry habitat types (Lichthardt, 2003). It would be expected that implementation of the Action Alternative

would reduce shade and canopy closure and lead to soil disturbance. It would be expected that implementation of the Action Alternative would result in moderate direct, and low indirect, and cumulative impacts on forest vegetation beyond those projected for the No Action alternative. Disturbance would be limited, and measures would be in place to protect the known plants. As a result, there would be low risk of direct, indirect, and cumulative effects. Road construction may have direct adverse impacts on individual plants. However, road construction is necessary to manage stands with the Project Area in order to move them towards historic conditions.

7. Past disturbances and periodic grazing have transported and spread noxious weeds along many roads and trails within the Project Area. Under the No-Action Alternative noxious weed management would continue to be conducted by the grazing lessee, adjacent landowners, and the DNRC based on priorities and funding available. The Action Alternative would continue to implement herbicide application (weed spraying) in the Project Area to reduce the spread of weeds along roads. However, noxious weeds would continue to occur and are likely to increase on state and adjacent lands, spread by wind, animals, equipment operation, and fire disturbance. Project areas would be monitored for noxious weeds after implementation and herbicide would be applied using an Integrated Weed Management (IWM) approach. Implementation of IWM measures listed in the mitigations would reduce existing weeds, moderate the possible spread of weeds, and improve current conditions to promote existing native vegetation.

Vegetation Mitigations:

- 1. Harvest prescriptions would be implemented to emulate natural disturbance and move the stands toward or retain DNRC desired future conditions.
- 2. Harvest prescriptions would be implemented to move most stands toward uneven-aged management and residual stands would represent multiple age classes.
- 4. Excessive slash generated from the harvest would be piled and burned following the proposed harvest activities.
- 5. Leave trees would be selected based on health and vigor. Trees exhibiting evidence of mistletoe infection, beetle infestation, root-rot, or other insect and disease infestation, regardless of size, would be favored for cut trees.
- 6. In areas where Clustered Lady's slipper has been and may be observed, harvest units would be designed to limit soil and root disturbance. Harvest prescriptions would include clumped leave tree selection where phenotypical superior trees of desirable species are present to aid in the shade retention of known occurrences, as well as retention of large coarse woody debris and standing dead trees. Skid trail layout would be designed to retain regeneration and shrub cover to aid in shade retention.

7. The project area would be monitored for noxious weeds after implementation and herbicide would be applied using an Integrated Weed Management (IWM) approach. Implementation of IWM measures listed in the mitigations would reduce existing weeds, moderate the possible spread of weeds, and improve current conditions to promote existing native vegetation. Equipment would be washed and inspected prior to harvest operations. An application of herbicide would be applied along haul roads post-harvest of the proposed timber sale.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

The project is located in the western foothills of the Ninemile Divide and northeast of the Clark Fork River Valley. The underlying geology includes Middle Proterozoic quartzite, sitlite, and argillite of the Belt Supergroup. No unique or unstable geology observed in the project area. Slopes within proposed harvest areas are moderate to steep (>45%). The map below summarizes the slopes classes and soil types where harvest and road construction are proposed.



The table below summaries the soil types in the project area and the erosion, displacement, and compaction risk assessed in consideration with the types of disturbances proposed (harvest method and/or road construction).

Map Unit	Name/Description	Erosion risk	Displace- ment risk	Compac- tion risk	Notes
14JA	Stryker family, dissected hills and alluvial fans	Low	Low	High if wet	No road construction proposed. Tractor harvest method.
30QA	Lostbasin-Bergquist families, complex, moderately steep mountain slopes	Moderate	Moderate to high on slopes >40%	Moderate	New road construction. Cable or tethered harvest method where slopes are >45%.
30QC	Mitten and Tevis families, moderately steep mountain slopes. Soils include volcanic ash that contributes to soil productivity and is vulnerable to displacement.	Moderate	Moderate to high on slopes >40%	High if wet	New road construction. Cable or tethered harvest method where slopes are >45%.
32QA	McCay family, broadly convex ridges, weakly weathered metamorphic bedrock. Soils include volcanic ash that contributes to soil productivity and is vulnerable to displacement.	Moderate	Moderate to high on slopes >40%	Moderate	New road construction. Cable or tethered harvest method where slopes are >45%.
64QD	Mitten family, steep mountain slopes, very stony. Soils include volcanic ash that contributes to soil productivity and is vulnerable to displacement.	Moderate	Moderate to high on slopes >40%	High if wet	New road construction. Cable or tethered harvest method where slopes are >45%.
64QB	Broadmoor family, steep mountain slopes, very stony	Moderate	Moderate to high on slopes >40%	Moderate	New road construction. Cable or tethered harvest method.
64MD	Bendahl and Foyslake families, steep mountain slopes. Soils include volcanic ash that contributes to soil productivity and is vulnerable to displacement.	Moderate	Moderate to high on slopes >40%	High if wet	New road construction. Cable or tethered harvest method.
30MC	Beeskove-Bendahl-Foyslake families, complex, moderately steep mountain slopes	Moderate	Moderate to high on slopes >40%	Moderate	New road construction. Cable or tethered harvest method where slopes are >45%.

Disturbance History

Most of the project area was acquired from the USFS approximately 15 years ago. Section 15 has an extensive network of abandoned logging roads (with associated cut and fill). This network is visible in aerial imagery from 1995 (see following image). These abandoned roads are not in use, and most are covered in debris (fallen trees and rocks) and have vegetation growing in the roadbed and on cut slopes. The trees growing on the roadbed are generally small/submerchantable trees due to age or stunted growth presumably due to compacted soils.



August 1995 imagery of Sections 34 and 35 of 18N 27W (snapshot from Google Earth and data from USGS).

The project area is also managed under a grazing license. Evidence of over-grazing not observed. No recent fire activity has occurred in the project area.

Soil Disturbance					Can	Comment								
and Productivity		D	irect			Secondary				Cum	ulative)	Impact Be	Number
-	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	Miligaleu ?	
No-Action														
Physical Disturbance (Compaction and Displacement)	x				x				x				N/A	1
Erosion	Х				Х				Х				N/A	1
Nutrient Cycling	Х				Х				Х				N/A	1
Slope Stability	Х				Х				Х				N/A	1
Soil Productivity	Х				Х				Х				N/A	1
Action														

Soil Disturbance		Impact												Comment
and Productivity		D	irect			Secondary				Cum	ulative		Impact Be Mitigated 2	Number
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	witigated?	
Physical Disturbance (Compaction and Displacement)		x				x				x			Y	2, 3, 4, 5
Erosion		Х				X				X			Y	3, 4, 8
Nutrient Cycling		Х				X							Y	3, 4, 6, 8
Slope Stability	Х				Х				Х				N/A	7
Soil Productivity		x				x				x			Y	2, 3, 5, 6, 8, 9

Comments:

- 1. Implementation of the No-Action Alternative would result in no new soil resource impacts in the project area. Soil resource conditions would remain similar to those currently at the site.
- 2. Ground-based logging equipment (tractors, skidders, mechanical harvesters) would be limited to slopes less than 45% unless not causing excessive disturbance. Factors in determining excessive disturbance include disturbances that would not be ameliorated within one to two years by natural processes including revegetation, freeze/thaw, and recruitment of coarse and fine organic material. Tethered ground-based equipment (TGE) operations would be a suitable way to exceed 45% while avoiding excessive soil disturbance. Otherwise, cable (skyline) yarding would be required for harvesting areas that cannot be reached with ground-based equipment without causing excessive soil disturbance.
- 3. Soil and vegetation disturbance from harvest activities may result in temporary increased risk of erosion. Soil disturbance and erosion risk increases with slope, and in the instance of this project increases where the ground surface has been historically disturbed with abandoned lateral logging roads (in Section 35 in particular). To minimize new disturbances, skidding strategies that use these existing disturbed areas is encouraged.

Soils within proposed harvest areas include a large component of non-renewable volcanic ash that contributes significantly to soil productivity. The sensitivity of these soils will warrant soil moisture monitoring outside of frozen, over-snow, or dry-summer-season operations.

4. Applicable state plans, rules, and practices have guided project planning and would be implemented during project activities, including the Montana Code Annotated (specifically Title 77, Chapter 5), the Administrative Rules of Montana (specifically Rule Chapter 36.11), the Montana Forest Best Management Practices, the DNRC Trust Lands Habitat Conservation Plan, and the State Forest Land Management Plan.

- 5. Direct impacts by physical disturbance would likely occur by the proposed ground-based yarding. The net observable soil impact within harvest units treated with ground-based yarding system(s) are expected to be less than 13.2% of the project area and would be minimized by use of existing roads and skid trails. This disturbance rate estimate is based off previous soil disturbance monitoring of timber sales completed by the DNRC (DNRC, 2011).
- 6. According to Graham et al. (1994), a minimum of 7 tons/acre of coarse woody debris (CWD) would be a desired post-harvest condition to maintain forest productivity for this forest habitat type. Visual estimates of the majority of the proposed harvest area indicate most areas are already meeting this minimum. The Action Alternative would include increasing or maintaining CWD concentrations per mitigation described below.
- 7. Unstable slopes were not observed on site. The project is anticipated to have no risk to slope stability.
- 8. Site preparation by prescribed burning may occur in the project area. These activities would be directed by the Forest Officer and are not anticipated to cause detrimental disturbance to project area soils. Areas with these types of slight disturbances can be quickly revegetated by tree seedlings and native vegetation (per State Forest Land Management Plan).

Soil Mitigations:

- BMP's would be implemented on all DNRC roads and along the haul route concurrent with project implementation. A portion of lopped and scattered slash would be left in the units to mitigate erosion risks and retain nutrients on-site.
- Ground-based logging equipment (tractors, skidders, and mechanical harvesters) would be limited to slopes less than 45% unless not causing excessive disturbance due to skilled operation and/or use of TGE operations.
- The Contractor and Sale Administrator would agree to a general skidding plan prior to equipment operations. Where possible, locate skidding disturbances in areas that have already been historically disturbed through compaction and displacement. Skid trails would be mitigated as needed and concurrent with harvesting and yarding operations with water bars and/or slash.
- The properties of the soils in the proposed harvest units make limiting harvest operations to dry or frozen conditions critical for preserving soil productivity. To prevent soil compaction ground-based mechanical felling and yarding would be restricted to one or more of the following conditions:
 - Soil moisture content at 4-inch depth less than 20% oven-dry weight. (Moisture retention will also be more prolonged in the late spring and early summer on the north and east-facing aspects of the project area.)
 - Minimum frost depth of 4 inches.
 - Minimum snow depth of 18 inches of loose snow or 12 inches packed snow.

- For nutrient retention, a minimum of **7 tons/acre** of coarse and fine woody debris would be left on site.
- If site preparation by prescribed burning is used to encourage seedling establishment, activities would be guided with the objective of removing surface duff and minor amounts of topsoil and not exposing more mineral soil than is necessary for obtaining desired seedling recruitment.
- If used, all herbicide applications would be according to label recommendations and safety precautions and would be completed under the supervision of a licensed and insured applicator. Herbicide quantities, label requirements, and application conditions would be recorded in project file to allow for post-monitoring and/or follow-up.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions:

The proposed harvest area is in the Fourmile Creek watershed, which is geographically tributary to the Clark Fork River. However much of the draw bottom of "Fourmile Creek" has no channel including the reach immediately downslope and north of the project area. The proposed haul route travels approximately 3 miles along the bottom of Sloway Gulch. Sloway Creek has fish according to distribution data maintained by the Montana Department of Fish, Wildlife, and Parks. This stream is also geographically tributary to the Clark Fork River; however, the channel disappears at the mouth of the gulch approximately 0.5 miles north of the Clark Fork River. Above the area where stream flow becomes subterranean the channel and adjacent to the proposed haul route, the channel is perennial with a bankfull of approximately 4 feet. The channel is well vegetated with a vegetated buffer between the creek and the road. This section of road meets forestry BMP standards with appropriately spaced drainage structures.

The harvest area has few surface water features. The two features observed within the project area are a spring-fed and isolated perennial stream (approximately 700 feet long) which occurs in the NW corner of section 35, and an isolated wetland located in the SW corner of section 34.

Beneficial uses or water quality impairments for Fourmile Creek and Sloway Gulch have not been defined by the DEQ or the 303d list. There are multiple surface water right claims for stock water on Fourmile Creek and its tributaries within or adjacent to the project area. These claims are for stock water direct from surface water, and although there is no continuous channel on Fourmile Creek, occasional isolated sections of stream or wallows do occur.

DNRC Trust lands recently closed a sale with approximately 365 acres of overstory removal prescription harvest in the Fourmile Creek watershed (Tim-Burr Saddle). This proposed Fourmile-Sloway project would include harvest of approximately 1,040 acres of additional area in the Fourmile Creek watershed. The USFS has also planned harvest (regeneration and

intermediate prescriptions), non-commercial thinning, and/or prescribed burning on the majority of their ownership (approximately 4.5 sections) in the Fourmile Creek watershed (Superior North Project approved by Lolo National Forest in 2024).

No harvest is proposed in the Sloway Creek watershed. The haul route that is within the Sloway watershed and adjacent to the creek is an open road. Improvement and maintenance of road BMPs in the Sloway watershed are anticipated with the Superior North Project (Lolo National Forest, 2024). It is assumed that DNRC project implementation and hauling will be coordinated with Lolo NF to ensure BMPs and sediment control are maintained along the haul route adjacent to Sloway Creek.

Water Quality &					Can	Comment								
Quantity		D	irect			Secondary			Cumulative				Impact Be	Number
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	wittigated f	
No-Action														
Water Quality	Х					Х				Х			N/A	1
Water Quantity	Х				Х				Х				N/A	1
Action														
Water Quality			X			X				Х			Y	2, 3, 5
Water Quantity		X				X				Х			N/A	4

Comments:

- 1. Without action (No-Action Alternative), no timber harvesting or related activities would occur. Water quality conditions would likely persist like the current condition. With no action there would be no risk of change to current fluctuations in annual water yield or stream flow.
- Applicable state plans, rules, and practices have guided project planning and would be implemented during project activities, including the Montana Code Annotated (specifically Title 77, Chapter 5), the Administrative Rules of Montana (specifically Rule Chapter 36.11), the Montana Forest Best Management Practices (BMPs), the DNRC Trust Lands Habitat Conservation Plan (HCP), and the State Forest Land Management Plan.
- 3. Changes to steam flow hydrology (water quantity or water flow) are expected in the Fourmile Creek watershed. As is described in the existing conditions, the DNRC recently completed a moderate harvest on 365 acres on the north side of the watershed, the USFS is expected to complete forest management activities (including harvest and prescribed fire) on approximately 4.5 acres on the upper and eastern portion of the watershed. This project proposes approximately 1,040 acres of harvest on the southern portion of the watershed. Cumulatively these actions would affect the majority of the watershed. The timing of these activities are distributed over several years. The DNRC activities on the north side of the watershed occurred in 2022 and most vegetation was retained within the harvest areas. The proposed DNRC harvest on the south side of the

watershed would occur in 2025 and beyond. The timing of the USFS activities is unknown.

Studies correlating vegetation harvest and treatment with streamflow yield have suggested approximately 15-20% of the watershed vegetation must be removed to have a measurable increase in water yield in similar mountain environments (Stednick, 1996; and Bosch and Hewlett, 1982). Because the majority of the watershed above the project area is under active management by DNRC and Lolo National forest, it is reasonable to assume that for the next 5-10 years more water may occur in Fourmile Creek. However, as is described earlier in the existing conditions, Fourmile Creek is mostly a dry swale with no channel evidence below the project area and no surface connection or discharge to the Clark Fork River.

Therefore, increased moisture and yield in the watershed is not expected to present a risk to water and riparian resources. It may simply cause an increase in water ponding and water-availability for plant uptake at the bottom of the Fourmile Creek swale.

4. Site preparation by chemical herbicide application could have an adverse direct effect on water resources if transported or delivered to surface waters. These risks are assumed to be moderated to low when herbicide use, and application are according to label recommendations and safety precautions; and applied under the supervision of a licensed and insured applicator.

Water Quality & Quantity Mitigations:

- If needed, implement sediment control BMPs at drainage structure outlets near Sloway Creek during hauling operations for the proposed project. Some examples of sediment control include: slash filter windrow. straw or wood waddles, and/or silt fence. Stabilize captured sediment (i.e., by shaping or grass seeding) at the conclusion of hauling operations.
- Prescribed fire control lines would be constructed with concurrent erosion control measures such as water bars at appropriate intervals. If used, all herbicide applications would be according to label recommendations and safety precautions and would be completed under the supervision of a licensed and insured applicator. Herbicide quantities, label requirements, and application conditions would be recorded in project file to allow for post-monitoring and/or follow-up.

FISHERIES:

Fisheries Existing Conditions: According to fish distribution data maintained by Montana Fish, Wildlife, and Parks, Westslope Cutthroat Trout occur in Sloway Creek, including in the reach located adjacent to the main haul route.

Field review of Sloway Creek adjacent to the haul route found no sign of channel instability or road failures to the creek.

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

					Can	Comment								
Fisheries		D	irect			Secondary				Cum	ulative		Impact Be	Number
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	willigated ?	
No-Action														
Sediment		X				X			Х	X			N/A	1
Flow Regimes	Х				Х				Х				N/A	1
Woody Debris	Х				Х				Х				N/A	1
Stream Shading	Х				Х				Х				N/A	1
Stream Temperature	Х				Х				Х				N/A	1
Connectivity	Х				Х				Х				N/A	1
Populations	Х				Х				Х				N/A	1
Action														
Sediment		Х				Х				Х			Y	2
Flow Regimes	Х				Х				Х				N/A	
Woody Debris	Х				Х				Х				N/A	
Stream Shading	Х				Х				Х				N/A	
Stream Temperature	Х				Х				Х				N/A	
Connectivity	Х				Х				Χ				N/A	
Populations	Х				Х				Х				N/A	

Action Alternative (see Fisheries table below):

Comments:

- 1. With no action, no timber harvesting or related activities would occur. Existing conditions would likely persist similar to its current condition.
- 2. Increases in sediment delivery and turbidity in Sloway Creek would be avoided with use of sediment control as needed. See further detail in Water Quality analysis.

Fisheries Mitigations: Effects to fish habitat from the proposed project would be minimized with maintenance of road drainage BMPs and installation of sediment control, as needed, where road drainage features outfall near or to the stream during operations of the Action-Alternative.

WILDLIFE:

Evaluation of the impacts of the No-Action and Action Alternatives including <u>direct, indirect, and</u> <u>cumulative</u> impact on wildlife.

Wildlife Existing Conditions: The project area is a mix of forested ponderosa pine, Douglas-fir, and Douglas-fir/western larch saw timber stands along with some pole timber stands and seedling/sapling stands resulting from past harvest. The project area contains habitat for a diverse array of wildlife that rely on the upland coniferous forests of western Montana. Some

use of the vicinity by grizzly bears is possible during the non-denning period. There are roughly 768 acres (31%) of suitable Canada lynx habitats in the project area, which includes 692 acres (90%) of winter foraging habitats, 69 acres (9%) of 'other suitable' habitats, and 6 acres (<1%) pf summer foraging habitats. Little or no use of the project area by wolverine would be anticipated. Potential habitat exists for fisher, flammulated owls, and pileated woodpeckers in the project area. Potential fringed myotis and Townsend's big-eared bat foraging habitats may exist in the project area; some potential hoary bat roosting habitats could exist in the project area. Big game summer range as well as white-tailed deer, mule deer, and elk winter ranges exists in the project area. Hiding cover for big game species exist in the project area and the project area likely receives a fair amount of recreational hunting pressure; potential big game security habitats exist in the project area that may contribute to security habitats in the cumulative effects analysis area.

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, fisher, and pileated woodpecker habitats, as well as big game winter and summer range attributes, but could reduce Canada lynx summer foraging habitats, flammulated owl habitat quality, and big game forage attributes over the long term. No changes to large diameter trees or snags would occur in the project area. No appreciable changes to riparian habitats would be anticipated. Generally, negligible direct, indirect, or cumulative effects to wildlife would occur.

Action Alternative (see Wildlife table below):

Roughly 1,246 acres of forested habitats, including 953 acres (51%) of existing mature Douglasfir/western larch, ponderosa pine, and Douglas-fir stands with reasonably closed canopies would be commercially harvested. In general, habitats for those species adapted to more-open stands of ponderosa pine and Douglas-fir/western larch 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 and ponderosa pine stands 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 ponderosa pine and Douglas-fir. Some reductions in visual screening 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. Losses of snags and large trees would be additive to reductions in snags and large trees with ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and Superior North Projects on US Forest Service lands in the vicinity; some recruitment of snags could occur with prescribed burning that will occur on USFS lands in the vicinity. Proposed pre-commercial thinning could reduce some horizontal cover in a portion of the project area; proposed prescribed burning would reduce coarse woody debris, further reduce horizontal cover, but may recruit some additional snags. Short-term increases in disturbance potential associated with proposed road construction and use, timber management, site preparation, and pre-commercial thinning 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					Can Impact be Mitigated?	Comment Number				
	Direct and Indirect Cumulative									
Threatened and	No	Low	Mod	High	No	Low	Mod	High		
Endangered Species										
Grizzly bear (Ursus arctos) Habitat: Recovery areas, security from human activity		x				x			Y	1
Canada lynx (<i>Felix lynx</i>) 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					3
Black-backed woodpecker (Picoides arcticus) Habitat: Mature to old burned or	x				x					3

Wildlife				Eff		Can Impact be Mitigated?	Comment Number			
	0	Direct ar	nd Indir	ect		Cum	nulative			
	No	Low	Mod	High	No	Low	Mod	High		
beetle-infested										
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 (Otus flammeolus) Habitat: Late- successional ponderosa pine and Douglas-fir forest		x				X			Y	6
Fringed myotis (Myotis thysanodes) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines		x				X			Y	7
Hoary bat (Lasiurus cinereus) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges		x				x			Y	8
Peregrine falcon (Falco peregrinus) Habitat: Cliff features near open foraging areas and/or wetlands	x				x					3
Pileated woodpecker (Dryocopus pileatus) Habitat: Late- successional ponderosa pine and larch-fir forest			x				x		Y	9
eared bat		X				X			Y	10

Wildlife				Can Impact be Mitigated?	Comment Number					
		Direct a	nd Indir	ect		Cun	nulative			
	No	Low	Mod	High	No	Low	Mod	High		
(Plecotus										
townsendii)										
Habitat: Caves,										
caverns, old mines										
Big Game Species										
Elk		Х				Х			Y	11,12
Whitetail deer		Х				Х			Y	11,12
Mule Deer		Х				Х			Y	11,12
Moose		Х				Х			Y	11,12
Bighorn Sheep	Х				Х					

Comments:

W-1 The project area is 16 miles south of the Northern Continental Divide Ecosystem grizzly bear recovery area, and 22 miles west 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 could use the project area throughout the non-denning period. Approximately 2,116 acres (85%) of the project area appear to have sufficient cover to potentially serve as hiding cover for grizzly bears. The project area contains some open roads (3.6 miles, 0.9 mi./sq. mi., simple linear calculation) and numerous forms of human disturbance including Interstate 90 that likely have reduced the overall effectiveness of the project area for grizzly bears. No grizzly bear security habitats (≥ 0.3 miles from roads receiving motorized use and ≥2,500 acres in size) exist solely within the project area, but habitats in the project area contribute to potential security habitats that extend beyond the project area. Within the cumulative effects analysis area, there are approximately 74 miles of open roads (1.5 mi./sq. mi., simple linear calculation) that could facilitate human-bear interactions and reduce the effectiveness of those areas for grizzly bears. Approximately 15.034 acres (48%) are distant enough from open roads and in blocks large enough to be useful for grizzly bears to be considered grizzly bear security habitats. Ongoing timber management in the cumulative effects analysis area could be adding disturbance to grizzly bears and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and the Superior North Projects on US Forest Service lands in the vicinity.

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 limited grizzly bear use would be anticipated, thus potential for disturbance and displacement of grizzly bears would be expected to have minor effects on grizzly bears.

Approximately 3.2 miles of new permanent road and 1.9 miles of temporary roads 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 1,228 acres (58%) of hiding cover proposed to receive treatments; some potential hiding cover could persist depending on the density of trees retained, especially in the 89 acres proposed for commercial thinning. Meanwhile, proposed activities in habitats that are not presently providing hiding cover (15 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. Despite reductions in hiding cover in the near term, hiding cover would increase through time across all proposed units as young trees and shrubs regenerate over the next 5 to 10 years. Roughly 912 acres within 1 potential block of grizzly bear security habitats would be commercially harvested, which would partially reduce hiding cover attributes in the northern portion of the area contributing to the larger block of potential security habitats in the vicinity. Although hiding cover would be reduced on roughly 912 acres that are distant enough from the existing open roads, minor reductions to security habitat would occur given the small area that would be altered, the location of those changes, and the lack of changes in open roads in the project area. 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 The project area ranges from approximately 2,680 to 4,920 feet in elevation and is dominated by ponderosa pine, Douglas-fir, and Douglas-fir/western larch. Approximately 768 acres (31%) of lynx habitat occur in the project area, which includes 692 acres (90%) of winter foraging habitats, and 69 acres (9%) of other suitable lynx habitats, and 6 acres (<1%) of summer foraging habitats. Thus, the majority of the project area (69%) does not contain suitable types for Canada lynx. Past timber management has altered connectivity in the project area; existing lynx habitats are partially connected, but some unsuitable types are intermixed with those suitable habitats. The project area is in the lower Clark Fork drainage, where track sightings are very rare, evidence of breeding is unavailable in the area, and no observations are known from the vicinity in the last 30 years (USDA 2024). Generally, due to the large amounts of unsuitable habitats and the limited amounts of suitable habitats that are only partially connected, overall limited use by Canada lynx of the project area would be anticipated.

Roughly 938 acres (32%) of Canada lynx winter foraging habitats, 250 acres (9%) of other suitable habitats, 28 acres (1%) of summer foraging habitats, and 1,490 acres (55%) of temporary non-suitable habitats exist on DNRC-managed lands in the cumulative effects analysis area. These habitats are intermixed with 4,772 acres (64%) of unsuitable types on DNRC-managed lands. On other ownerships, there are roughly 14,239 acres (60% of non-DNRC lands) of forested stands with a reasonably closed canopy across the cumulative effects analysis area; a portion of those stands would likely be suitable lynx habitats and probably include some winter foraging habitats and other portions would be too low and contain unsuitable, drier types. Additionally, summer foraging habitats likely exists on a portion of the 6,657 acres (28% of non-DNRC lands) of sparsely stocked and young forest stands on other ownerships; no lynx habitats likely exist on the 2,932 acres (12% of non-DNRC lands) of shrubs, herbaceous, water, recently burned habitats, and non-forested types on other ownerships in the cumulative effects analysis area. Connectivity of lynx habitats within the cumulative effects analysis area is somewhat limited due to ownership, past timber management, human developments, recent wildfires, the existing mixture of suitable habitats with warmer, drier habitats, and the natural openness of certain habitats in the cumulative effects analysis area.

Ongoing timber management in the cumulative effects analysis area could be disturbing Canada lynx and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and Superior North Projects on US Forest Service lands in the vicinity. Roughly 83.3% 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 and 16.6% are in the temporary nonsuitable habitat category. These habitats are dominated winter foraging habitats (46%), followed by other suitable (24%), with lesser amounts of temporary non-suitable (17%) and summer foraging (14%) habitats.

Most of the proposed activities would not occur in mapped lynx habitats (1,215 acres; 98% of proposed units) and would not be expected to appreciably affect lynx. Approximately 28 acres of proposed harvesting would occur in mapped lynx habitats, which includes 17 acres (60%) of winter foraging habitats, 7 acres (26%) of other suitable habitats, and 4 acres (14%) of summer foraging habitats. Most of these units (~26 acres) would also be pre-commercially thinned, which would further reduce horizontal cover. Small shade tolerant trees (such as grand-fir, subalpine fir, and spruce) would be retained where possible in pre-commercial thinning units to provide potential habitat structure for snowshoe hares by increasing the levels of horizontal cover and accelerating the development of multi-storied stands. Prescribed burning could occur in a minor amount (2 acres) of lynx habitats in lynx habitats and would be expected to reduce coarse woody debris and horizontal cover but could recruit some summer foraging habitats in the near term. Collectively, proposed activities would convert these habitats (28 acres; 3%) to temporary non-suitable habitats. Generally, these reductions in winter foraging, other suitable habitats, and summer foraging 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. Following proposed treatments, roughly 28 acres of potential lynx habitats (3%) in the project area would be in temporary nonsuitable habitats; approximately 675 acres (83%) of winter foraging, 62 acres (8%) of other suitable lynx habitats, and 2 acres (<1%) of summer foraging habitats would exist in the project area following proposed activities. The retention of patches of advanced regeneration of shadetolerant trees, such as grand-fir, sub-alpine fir, and Engelmann spruce in winter foraging habitats, would break-up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx. 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. In the short-term, slight shifts in lynx use of a small portion of the project area could occur. Proposed activities would further reduce forested connectivity in the area but would avoid most of the habitats perceived to be useful for lynx; some connectivity would be retained along riparian areas associated with Fourmile Creek and through unharvested patches in the project area.

Within the cumulative-effects analysis area, roughly 1,518 acres of lynx habitats (56%) on DNRC-managed lands would be in temporary non-suitable habitats following proposed activities. The reductions in winter foraging, other suitable habitats, and summer foraging 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 and any ongoing modifications in the cumulative-effects analysis area. Likewise, increases in temporary non-suitable lynx habitats would be additive to habitats that have been recently converted due to timber harvesting and other forms of human disturbance. No further changes to the suitable lynx habitats on other ownerships would be anticipated. Forest connectivity would be negligibly altered in the project area, but

these reductions in connectivity would not appreciably alter connectivity in the cumulative effects analysis area. Connectivity of suitable lynx habitats along RMZs, associated riparian habitats, and stringers of connected habitats would persist and overall negligible changes to connectivity across the cumulative effects analysis area would be anticipated. Overall, given few or no lynx have been detected in the lower Clark Fork River drainage, considerable 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 83.3% 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 tree line 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 lands in 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 901 acres (36%) of potential upland fisher habitats and 11 acres (<1%) of potential riparian fisher habitats exist in Douglas-fir/western larch, western larch, and mixed conifer stands in the project area. Another 113 acres (5%) of preferred covertypes exist in the project area that currently lack structural attributes necessary to be suitable for fisher. Generally, habitats in the project area and cumulative effects analysis area are somewhat disconnected and interspersed with some drier and/or more open habitats than generally used by fisher, thus extensive use by fisher would not be anticipated. Observations of fishers in the vicinity within the last 30 years are lacking and recent research suggests that fishers are largely absent east of the wet forests along the Montana-Idaho border (Montana Natural Heritage Program 2024, Krohner et al. 2022). Human disturbance, developments, existing matrix of unsuitable types, and ongoing timber management in the vicinity have likely limited fisher use of the project area and cumulative effects analysis area. Ongoing timber management in the cumulative effects analysis area could be disturbing fisher and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and the Superior North Projects on US Forest Service lands in the vicinity. Proposed activities could introduce short-duration disturbance in the upland habitats. Alterations to roughly 597 acres (66%) of potential upland habitats and 112 acres (100%) of preferred covertypes would occur, but activities would avoid riparian habitats commonly used by fisher. Proposed treatments would reduce canopy closure and resultant stands would likely be too open to be used by fisher and all 709 acres treated would not be suitable for fisher for 60-120 years. No changes in fisher habitats would be anticipated with the proposed pre-commercial thinning; pre-commercially thinned stands could develop into suitable fisher habitats sooner due to the proposed thinning. Proposed prescribed burning would largely avoid fisher types, but a small amount (~12 acres) would occur in fisher types where proposed silvicultural activities would have occurred as well.

Proposed prescribed burning could remove some coarse woody debris but could also recruit some additional snags from existing leave trees. No changes in fisher suitability in the near term would be expected with the proposed prescribed burning and anticipated increases in regeneration could shorten the time before those stands would again be suitable for fisher. No changes in open roads would occur; little or no change in trapping pressure and the potential for fisher mortality would be anticipated. Reductions in upland habitats would further reduce the amount of suitable upland fisher habitats in the cumulative effects analysis area, but collectively no appreciable changes in fisher use of the cumulative effects analysis area would be anticipated.

W-6 Roughly 1,050 acres (42% of the project area) of potential flammulated owl habitats exist in the project area in dry ponderosa pine and Douglas-fir stands. There are an additional 2,787 acres of potential flammulated owl habitats on stands dominated by dry Douglas-fir and ponderosa pine on DNRC-managed lands within the cumulative effects analysis area; ongoing activities on DNRC-managed lands in the cumulative effects analysis area associated with the Burr Saddle Timber Sale projects are modifying approximately 1,128 acres of potential flammulated owl habitats outside of the project area that are in the cumulative effects analysis area. Some suitable habitats likely exist on a portion of the 5,137 acres (81% of non-DNRCmanaged 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. Ongoing timber management in the cumulative effects analysis area could be adding disturbance to flammulated owls and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and the North Superior Projects on US Forest Service lands in the vicinity.

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 activities on 592 acres of potential flammulated owl habitats (56% of the habitats) would open the canopy while favoring ponderosa pine, western larch, and Douglas-fir. The proposed treatments would reduce canopy closure and improve foraging habitats. Minor reductions in flammulated owl foraging habitats would be anticipated with the proposed pre-commercial thinning. Proposed prescribed burning would further reduce flammulated owl foraging habitats but may recruit additional snags that could be used for nesting. 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. No known caves, mines, crevices, or other structures used for roosting occur in the project area, but some caves and mines appear in the vicinity. 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. Ongoing timber management in the cumulative effects analysis area could be disturbing fringed myotis and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and the Superior North Projects on US Forest Service lands in the vicinity. Proposed activities could disturb fringed myotis should they be in the area during proposed activities. Changes in vegetation structural attributes could change overall prey availability, but considerable foraging habitats would persist in the project area or cumulative effects analysis areas would be anticipated.

W-8 Hoary bats are summer residents (June-September) across a variety of forested habitats in Montana. Hoary bats frequently forage over water sources near forested habitats. Hoary bats are generally thought to roost alone, primarily in trees, but will use also use caves, other nests, and human structures. Some use of the project area by Hoary bats would be possible given the varied habitats present and the proximity to the Clark Fork River, Fourmile Creek, and numerous other smaller riparian areas. Individual trees and snags in the existing forested habitats could be used for roosting. No known caves or other structures used for roosting occur in the project area, but some mines and caves appear to exist in the vicinity. Hoary bats have been documented in the vicinity of the project area. Ongoing timber management in the cumulative effects analysis area could be disturbing hoary bats and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRCmanaged lands and the Superior North Projects on US Forest Service lands in the vicinity. Proposed activities could disturb hoary bats should they be in the area during proposed activities, but disturbance generally outside of the summer months would not be expected to disturb hoary bats. Loss of potential roosting habitats could occur, but considerable amounts of trees would persist in the project and cumulative effects analysis areas. No changes in foraging habitats would be anticipated. Overall, negligible changes to hoary bat use of the project area or cumulative effects analysis areas would be anticipated.

W-9 Roughly 1,241 acres (50%) of potential pileated woodpecker nesting habitats exist in the project area; another 1,110 acres (44%) of potential foraging habitats exist in the project area. In the cumulative effects analysis area, roughly 1,247 acres (29%) of additional pileated woodpecker habitats and an additional 344 acres (8%) of potential feeding habitats exist on DNRC managed lands within the cumulative effects analysis area; ongoing activities on DNRC-managed lands in the cumulative effects analysis area associated with the Burr Saddle Timber Sale projects are removing roughly 1,435 acres (33%) of pileated woodpecker foraging habitats and 359 acres (8%) of potential foraging habitats. Some suitable habitats likely exist on a portion of the 3,332 acres of forested habitats on other ownerships in the cumulative effects analysis area (52% of non-DNRC lands). Much of the 3,016 acres (48%) of shrubs, herbaceous areas, poorly stocked forested stands, and recently harvested stands on other ownerships in the cumulative effects analysis area is likely to open to be useful to pileated woodpeckers. Ongoing timber management in the cumulative effects analysis area could be disturbing pileated woodpeckers and/or altering existing habitats, including ongoing activities associated with the

Burr Saddle Timber Sale projects on DNRC-managed lands and the Superior North Projects on US Forest Service lands in the vicinity.

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 831 acres (67%) of the potential nesting habitat along with 287 acres (26%) of potential foraging habitats would be harvested. Most of these stands proposed for treatment would be temporarily unsuitable for pileated woodpeckers due to the openness of the stands following proposed treatments, but some use could occur depending on the density of trees retained. 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 could recruit additional snags while promoting shade intolerant species that are preferred by pileated woodpeckers. 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 1.243 acres proposed for commercial treatment. In the cumulative effects analysis area, the reduction in guality on 831 acres of potential nesting habitats and 287 acres of foraging habitats would further reduce available habitats and reduce the overall guality of the cumulative effects analysis area for pileated woodpeckers. Overall, 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. Some use of the project area by Townsend's big-eared bats would be possible given the varied habitats. Trees and shrubs in the project area could be used for foraging. No known caves, caverns, or other structures potentially used for roosting are known to occur in the project area, but some caves and mines appear to exist in the vicinity. Townsend's big eared bats have been documented in the vicinity. Ongoing timber management in the cumulative effects analysis area could be disturbing Townsend's big eared bats and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and the Superior North Projects on US Forest Service lands in the vicinity. Proposed activities could disturb Townsend's big-eared bats should they be in the area during proposed activities. Loss of potential foraging habitats could occur, but considerable numbers of trees 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 White-tailed deer (1,030 acres, 41%), mule deer (553 acres, 22%), and elk (2,542 acres, 100%) winter ranges exist in the project area. Approximately 2,351 acres of the project area (94%) appear to have sufficient canopy closure to be providing snow intercept and thermal cover attributes for big game. 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 15,561 acres (50%) of white-tailed deer, 4,970 acres (16%) of mule deer, and 23,452 acres (75%) of elk winter ranges exist in the cumulative effects analysis area. There

are roughly 3,655 acres (49%) of stands dominated by Douglas-fir, Douglas-fir/western larch, and ponderosa pine on DNRC-managed lands in the cumulative effects analysis area that appear to be providing snow intercept and thermal cover attributes for big game; approximately 14,239 acres (60%) of forested habitats on other ownerships in the cumulative effects analysis area appear to have sufficient canopy closure to provide thermal cover and snow intercept for big game, however portions of these habitats may be 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, and several roadways, including Interstate 90. Ongoing timber management in the cumulative effects analysis area could disturbing big game and/or altering existing winter range habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and the Superior North Projects on US Forest Service lands in the vicinity.

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 nonwinter 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 activities would occur on roughly 398 acres (39%) of white-tailed deer winter range, 397 acres (72%) of mule deer winter range, and 1,242 acres (49%) of elk winter range; proposed activities would reduce canopy closure and potential winter use by big game on roughly 1,170 acres (50%) that likely have attributes facilitating considerable winter use by big game. Following proposed activities, canopy densities in these stands providing snow intercept and thermal cover would be reduced, reducing habitat quality for wintering big game. 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 shortterm. 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 not appreciably alter winter range attributes but could shorten the time before some of these stands provide these attributes to big game in the future. Proposed prescribed burning would also not affect winter range attributes but could improve forage resources in a small portion of the project area. 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, and a variety of human developments and human recreation. Further reductions in thermal cover and snow intercept would be additive to losses from recent timber management, residential land clearing, 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-12 The project area is close to the town of St. Regis, is adjacent to USFS lands, and has some open roads, thus decent public access for recreational hunting exists. Hiding cover (2,116 acres; 85%) is fairly widespread in the project area; similarly hiding cover is moderate to high in the cumulative effects analysis area. The project area contains a few open roads (3.6 miles; 0.9 mi./sq. mi., simple linear calculation) and numerous forms of human disturbance that likely have reduced the overall effectiveness of the project area for big game species. Non-motorized access to the project area is relatively high given the proximity to open roads and the 13.4 miles of restricted roads (3.4 mi./sq. mi., simple linear calculation) in the project area. Roughly 878 acres of the project area have adequate cover and are distant enough from open roads to be

considered big game security habitats; potential security habitats in the project area contributes to a larger block of potential security habitat that extends beyond the project area. In the cumulative effects analysis area, access for recreational hunting is relatively high, with many open roads (74 miles, 1.5 mi./sq. mi.) that facilitate access and numerous restricted roads (71 miles; 1.4 mi./sq. mi.) that could be used for non-motorized use. Within the cumulative effects analysis area, at least 3 patches (minimum of 11,607 acres; 37%) of potential security habitat exist. One of the patches extends beyond the cumulative effects analysis area and contributes to a larger block of potential security habitats. Ongoing timber management in the cumulative effects analysis area could be disturbing big game security habitats and/or altering existing habitats, including ongoing activities associated with the Burr Saddle Timber Sale projects on DNRC-managed lands and the Superior North Projects on US Forest Service lands in the vicinity.

Tree density within proposed units would be reduced on approximately 1,243 acres, including roughly 1,228 acres (58%) of forested stands in the project area that likely have adequate hiding cover for big game. Hiding cover would improve as trees and shrubs become reestablished in the openings over the next 10-20 years. The retention of structure within proposed units and unharvested areas between the various units, including some riparian habitats would reduce the potential effects of the hiding cover reductions. 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 3.2 miles of new permanent restricted road and 1.9 miles of temporary roads. Numerous contract stipulations would minimize the effect on the 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. Proposed pre-commercial thinning could further reduce hiding cover attributes for big game, but cover would be expected to persist in proposed pre-commercial thinning units and in un-treated portions of the project area. Proposed prescribed burning would further reduce hiding cover for big game in the shortterm, but anticipated regeneration would abbreviate the amount of time it takes for those areas to again function as hiding cover. Collectively, hiding cover on up to 547 acres of big game security habitats (62%) in the project area would be altered, which would temporarily reduce the guality of the existing security habitats in the cumulative effects analysis area. No changes in public, motorized access and negligible changes in non-motorized access would be expected. Negligible effects to big game vulnerability would be anticipated in the cumulative effects analysis area because minor changes to hiding cover would occur, no changes to motorized human access and negligible changes to non-motorized access would occur, and some reductions in hiding cover in a small portion of the larger blocks of big game security habitats would occur.

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 fir 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.

						Im	pact						Can	Comment
Air Quality	Direct					Secondary				Cum	ulative		Impact Be Mitigated?	Number
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	Miligaleu ?	
No-Action														
Smoke	Х				Х				Х					
Dust	Х				Х				Х					
Action														
Smoke		Х			Х				Х				Y	1
Dust		X			Χ				Х				Y	2

AIR QUALITY:

Comments:

 Under the Action Alternative, slash piles consisting of tree limbs and tops and other vegetative debris would be created throughout the Project Area during timber harvesting. These slash piles would be burned after harvesting operations have been completed. Following harvesting operations prescribed fire may be used to prep soils for planting and/or to encourage natural regeneration of seral species. 2. Dust would be created during hauling activities. However, the Action Alternative would have a low risk of direct effects on air quality by implementing the listed air quality mitigations.

Air Quality Mitigations:

- Burning within the Project Area would be short in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group. The DNRC, as a member of the Montana/Idaho Airshed Group, would only burn on approved days.
- 2. Dust abatement would be applied as needed during hauling operations if excessive dust is created.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative					Can	Comment								
result in potential		D	irect			Sec	ondary			Cum	ulative		Impact Be	Number
impacts to:	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	Mitigated ?	
No-Action														
Historical or Archaeological Sites	Х				х									
Aesthetics		X				X								2
Demands on Environmental Resources of Land, Water, or Energy	x				x									
Action														
Historical or Archaeological Sites	х				х									1
Aesthetics		Х				Х							Y	2
Demands on Environmental Resources of Land, Water, or Energy	x				x									

Comments:

1. Scoping letters were sent to those Tribes that requested to be notified of DNRC timber sales. No response was returned that identified a specific cultural resource issue. A Class I (literature review) level review was conducted by the DNRC staff archaeologist for the area of potential effect (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search results revealed that no cultural or paleontological resources have been identified in the APE. Because the topographic setting and geology suggest a low to moderate likelihood of the presence of cultural or paleontologic resources, proposed timber harvest activities are expected to have *No Effect* to

Antiquities. No additional archaeological investigative work will be conducted in response to this proposed development. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

2. The Fourmile-Sloway Project Area is visible from I-90, HWY 135, and residences within the Fourmile Creek Area.

The most significant visual changes of the Action Alternative would be expected on steeper slopes and adjacent to road corridors. New road construction would be most visible during and within the first 3 years of construction when excavated material would contrast in color and texture of the surrounding forest. In all proposed harvest units of the Project Area, a noticeable change in the stand density would be apparent post-harvest. Visual change would be most apparent during the first drying season as residual slash within skid trails and corridors change from greens to reds and browns as well as just following prescribed fire activities. The Project area is surrounded by scattered, recent timber management in the vicinity on various ownerships. Implementation of the Action Alternative would result in a visible harvest entry, with visible new road construction.

Implementation of the No-Action Alternative would likely result in the continuation and possible increase in mortality of mature Douglas-fir within the Project Area. This would result in more dead and dying patches in addition to what is already visible. It would also be expected to increase the likelihood of a stand replacing fire, resulting in a dramatic visual change.

Historical or Archaeological Sites Mitigations:

1. If previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

Aesthetics Mitigations:

2. Silvicultural treatments would attempt to emulate natural disturbances, early seral species which are more fire-resistant would be preferred for leave trees (PP and WL). Leave trees would be selected based on species form, and vigor; leaving a more natural appearance, which would decrease contrast in form, line, color, and texture between past and current management activities and ownerships. Regeneration would be monitored post-harvest, and the Project Area would be planted as needed. If prescribed fire is needed to promote regeneration, fire intensity would be monitored to a scorch height below the overstory canopy. As regeneration grows in height and volume, it would be expected that regeneration would fill visual openings and decrease the visual lines by between harvest boundaries. Newly constructed roads would be grass seeded within the first growing season following the proposed construction. It would be expected that the grass seeding would help moderate the visual impacts of the road construction, especially on cut and fill slopes.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: List other

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

- MSO West FY17-18 PCT's Environmental Assessment Checklist DNRC, February 2017
- Superior North Environmental Assessment Checklist Lolo National Forest Superior Ranger District, Mineral County, Montana, April 2024

Impacts on the Human Population

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

Will Alternative					Can	Comment								
result in potential		Di	rect			Seco	ondary			Cum	ulative		Impact Be	Number
impacts to:	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	Miligaleu ?	
No-Action														
Health and Human Safety	X				Х				х				N/A	
Industrial, Commercial and Agricultural Activities and Production	x				x				x				N/A	
Quantity and Distribution of Employment	x				x				x				N/A	
Local Tax Base and Tax Revenues	x				х				х				N/A	
Demand for Government Services	x				x				x				N/A	
Access To and Quality of Recreational and Wilderness Activities	x				x				x				N/A	
Density and Distribution of population and housing	x				x				x				N/A	
Social Structures and Mores	x				x				х				N/A	
Cultural Uniqueness and Diversity	Х				Х				Х				N/A	
Action														
Health and Human Safety		X				X			х				Y	1, 2

Will Alternative						Im	pact						Can	Comment
result in potential		Di	rect			Seco	ondary			Cum	ulative)	Impact Be	Number
impacts to:	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High	willigated ?	
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	Х				х				х				N/A	
Demand for Government Services	х				х				х				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				Х				Х				N/A	
Cultural Uniqueness and Diversity	x				x				x				N/A	

Comments:

- There is inherent risk associated with conducting prescribed fires. Under the Action Alternative, both prescribed fires and slash pile burning can "escape" and burn into unintended areas. The unintentional consequences of this action may pose an impact to the health and human safety if an escaped burn escalates onto adjacent landowners within the wildland-urban interface. Implementation of the proposed prescribed (RX) burn using the DNRC 400 manual and a burn plan approved by a DNRC Line Officer would expect to moderate the potential direct and secondary impacts of the Action Alternative to low.
- 2. The proposed Project Area is used for hiking, hunting, and general recreating by non-motorized users with a conservation license (access to the majority of the Project Area is through a locked gate on frontage road with no public motorized use). The DNRC does not track specific recreational activities (non-special recreation use license users) within the Trust Land ownership in the project area. The proposed Action Alternative would include a possible public closure during the proposed implementation of the prescribed fire site preparation. A possible public closure within the vicinity of proposed burn unit may be needed to ensure both public and DNRC personnel safety during the proposed implementation of the proposed prescribed fire activities. A temporary change of recreational usage during project implementation could occur but would be short in duration.

Mitigations:

- 1. An RX Burn Plan would be written incorporating potential risks to fire fighter and public safety as well as potential risks to control/escape. The burn plan would be reviewed and signed by the appropriate DNRC Line Officer.
- 2. Signs would be posted at the anticipated public entry points to inform the public of the prescribed burn. No public use restrictions would be imposed during the proposed Action Alternative activities outside of the proposed prescribed fire. Signs would be posted indicating that log truck traffic and logging operations are present within the Project Area during the proposed new road construction and harvest activities.
- 3. Prescribed fire would be implemented in accordance with the burn plan developed for the project area. Compliance with the burn plan will incorporate the necessary measures needed to maintain control of the burn. (i.e. hand line, engines, ground personnel, etc.)

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 trusts at this time.

Action: The timber harvest would generate additional revenue for the Common Schools, Public Buildings, MSU 2nd Grant, and Eastern College – MSU/Eastern College – U of M Trusts. The estimated return to the trust for the proposed harvest is \$321,600 based on an estimated harvest of 8 million board feet (53,600 tons) and an overall stumpage value of \$6.00 per ton. Additional Forest Improvement fees of \$3.25/ton (based on a ton/MBF conversion of 6.7) 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, planting, and prescribed burning would initially generate cost to the Trust; however, this would be an investment in increased productivity for the stand. It would be expected this increased productivity would result in increased merchantable volume, available at a later date.

Direct costs associated with pre-commercial thinning (PCT) are estimated to be \$290,400. This figure was estimated by multiplying the estimated number of PCT acres (968) by the estimated 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: Lauren Converse Title: Management Forester Date: March 20, 2025

Finding

An interdisciplinary team (ID Team) has completed the Environmental Assessment (EA) for the proposed Fourmile-Sloway Project prepared by the Montana Department of Natural Resources and Conservation (DNRC). After a review of the EA, project file, public correspondence, Department Administrative Rules, policies, and the State Forest Land Management Plan (SFLMP), I have made the following decisions:

Alternative Selected

Action Alternative

Significance of Potential Impacts

For the following reasons, I find that the implementation of the Action Alternative will not have significant impacts on the human environment:

Vegetation- The Action Alternative will bring stands back to the Desired Future Condition (DFC) by promoting seral species such as ponderosa pine and western larch. This will occur in commercial harvests as well as pre-commercial thinning and prescribed fire activities.

There is no Old Growth within the project area.

Trees impacted by insects and disease will be removed, leaving a more resilient stand condition in the understory and overstory. Proposed site preparation, including prescribed fire, will remove shade tolerant sub-merchantable trees and promote natural regeneration of seral species.

An Integrated Weed Management approach will be implemented during operations. Including washing equipment prior to harvest operations. Weed spraying will take place within harvest units by licensed applicators.

The harvest prescription was altered in areas where a plant species of concern was located. The Clustered Lady Slipper was found in 4 separate areas (Four individual plants in one area as well as populations in 3 additional areas). When a population exists in the harvest areas the prescription is altered to allow for more shade retention. This will include one or more of the following: leaving clumps of phenotypical superior trees, leaving standing dead trees or designing skid trail layout to retain regeneration and shrub cover. There will be a population of Clustered Lady Slippers impacted by a segment of new road. There were no other viable options for a road location. This will result in an overall moderate impact to the Clustered Lady Slipper. By implementing mitigations during harvest operations to retain/protect as much of population as possible in all other areas where it has been identified, a moderate impact is appropriate.

Soils-Leaving 7 tons/acre of large, woody debris on site will provide for long-term soil productivity. Harvest mitigation measures such as skid trail planning, appropriate harvest system utilization and season of use limitations will limit the potential for severe soil impacts.

Water Quality- Water Quality Best Management Practices for Montana Forests (BMPs) and the Streamside Management Zone (SMZ) law will be strictly adhered to during all operations involved with the implementation of the Action Alternative. If prescribed fire control lines are constructed, erosion control measures will be constructed concurrently.

Fisheries- Due to log hauling being the only activity taking place near a fish-bearing stream, it is unlikely that the proposed timber sale will affect large woody debris recruitment, shade or instream temperature in any fish-bearing streams within the project area.

Air Quality-Any slash burning 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.

Visual Quality-New permanent roads will be grass seeded within the first growing season following construction. Harvest prescriptions emulate natural disturbances, which will decrease contrast in form, color, and texture between past and current management activities.

Wildlife-The anticipated impacts to Wildlife under the proposal are expected to be low, with the only exception being the pileated woodpecker. Ongoing timber management in the area has reduced the acres of desirable habitat. This, in addition to the Action Alternative, will have a moderate impact on Pileated Woodpecker populations in the project area. This is not uncommon in an actively managed landscape. Although a reduction in the quality of Pileated Woodpecker habitats in the cumulative effects analysis area would be anticipated, continued

use will be expected; making the moderate impact determination appropriate until the stand conditions are desirable for the pileated woodpecker again (approximately 30-50 years).

Economics- Proposed non-commercial activities will be a cost to the impacted Trusts. However, implementation of these activities increases overall health and vigor in stands, which could shorten harvest rotation, allowing for more revenue generation. Commercial activities will provide approximately \$321,600 in net short-term revenue (estimated based on current stumpage rates) and an additional \$3.25/ton in Forest Improvement Fees and does not limit the DNRC's options for generating revenue from these sites in the future.

Need for Further Environmental Analysis

EIS

More Detailed EA

X No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Amy Helena Title: Missoula Unit Manager Date: 03/31/2025 Signature: /s/ Amy Helena Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units



A-3: Precommercial Thin and Rx Burn Units



Attachment B – Silvicultural Prescriptions

IRS: 1/N R2/W 4, 118N R2/W 33 & 34 ACRES: 1: 112 Acres 2: 20 Acres 20: 75 Acres LAND OFFICE: Southwest EXPECTED MBF per ACRE: 6-8 MBF/acre UNIT OFFICE: Missoula EST. HARVEST VOLUME: 1392 MBF SALE TYPE: Timber Sale PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year duration EA/EIS NAME: Fourmile-Sloway Project PLANNED FY: TIMBER SALE NAME: PROJECT PHASE: MEPA CUTTING UNIT: 1, 2, 20 LAND OFFICE APPROVAL: AGE CLASS: 100-149 years ELEVATION: 3400' LOZENSKY TYPE Ponderosa Pine ASPECT: West/Southwest DESIRED COVER TYPE: Ponderosa Pine SLOPE (%): 20-60% HABITAT TYPE: PSME/PHMA FIELD CONTACT: Lauren Converse		
LAND OFFICE: SouthwestEXPECTED MBF per ACRE: 6-8 MBF/acreUNIT OFFICE: MissoulaEST. HARVEST VOLUME: 1392 MBFSALE TYPE: Timber SalePLANNED SALE DATE: MEPA completed Spring 2025 - 15 year durationEA/EIS NAME: Fourmile-Sloway ProjectPLANNED FY:TIMBER SALE NAME:PROJECT PHASE: MEPACUTTING UNIT: 1, 2, 20LAND OFFICE APPROVAL:AGE CLASS: 100-149 yearsELEVATION: 3400'LOZENSKY TYPE Ponderosa PineASPECT: West/SouthwestDESIRED COVER TYPE: Ponderosa PineSLOPE (%): 20-60%HABITAT TYPE: PSME/PHMAFIELD CONTACT: Lauren Converse	IRS: 1/N R2/W 4, 118N R2/W 33 & 34	ACRES: 1: 112 Acres 2: 20 Acres 20: 75 Acres
UNIT OFFICE: MissoulaEST. HARVEST VOLUME: 1392 MBFSALE TYPE: Timber SalePLANNED SALE DATE: MEPA completed Spring 2025 - 15 year durationEA/EIS NAME: Fourmile-Sloway ProjectPLANNED FY:TIMBER SALE NAME:PROJECT PHASE: MEPACUTTING UNIT: 1, 2, 20LAND OFFICE APPROVAL:AGE CLASS: 100-149 yearsELEVATION: 3400'LOZENSKY TYPE Ponderosa PineASPECT: West/SouthwestDESIRED COVER TYPE: Ponderosa PineSLOPE (%): 20-60%HABITAT TYPE: PSME/PHMAFIELD CONTACT: Lauren Converse	LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 6-8 MBF/acre
SALE TYPE: Timber SalePLANNED SALE DATE: MEPA completed Spring 2025 - 15 year durationEA/EIS NAME: Fourmile-Sloway ProjectPLANNED FY:TIMBER SALE NAME:PROJECT PHASE: MEPACUTTING UNIT: 1, 2, 20LAND OFFICE APPROVAL:AGE CLASS: 100-149 yearsELEVATION: 3400'LOZENSKY TYPE Ponderosa PineASPECT: West/SouthwestDESIRED COVER TYPE: Ponderosa PineSLOPE (%): 20-60%HABITAT TYPE: PSME/PHMAFIELD CONTACT: Lauren Converse	UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 1392 MBF
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TIMBER SALE NAME: PROJECT PHASE: MEPA CUTTING UNIT: 1, 2, 20 LAND OFFICE APPROVAL: AGE CLASS: 100-149 years ELEVATION: 3400' LOZENSKY TYPE Ponderosa Pine ASPECT: West/Southwest DESIRED COVER TYPE: Ponderosa Pine SLOPE (%): 20-60% HABITAT TYPE: PSME/PHMA FIELD CONTACT: Lauren Converse	EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
CUTTING UNIT: 1, 2, 20 LAND OFFICE APPROVAL: AGE CLASS: 100-149 years ELEVATION: 3400' LOZENSKY TYPE Ponderosa Pine ASPECT: West/Southwest DESIRED COVER TYPE: Ponderosa Pine SLOPE (%): 20-60% HABITAT TYPE: PSME/PHMA FIELD CONTACT: Lauren Converse	TIMBER SALE NAME:	PROJECT PHASE: MEPA
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LOZENSKY TYPE Ponderosa PineASPECT: West/SouthwestDESIRED COVER TYPE: Ponderosa PineSLOPE (%): 20-60%HABITAT TYPE: PSME/PHMAFIELD CONTACT: Lauren Converse	AGE CLASS: 100-149 years	ELEVATION: 3400'
DESIRED COVER TYPE: Ponderosa Pine SLOPE (%): 20-60% HABITAT TYPE: PSME/PHMA FIELD CONTACT: Lauren Converse	LOZENSKY TYPE Ponderosa Pine	ASPECT: West/Southwest
HABITAT TYPE: PSME/PHMA FIELD CONTACT: Lauren Converse	DESIRED COVER TYPE: Ponderosa Pine	SLOPE (%): 20-60%
	HABITAT TYPE: PSME/PHMA	FIELD CONTACT: Lauren Converse

UNITS 1, 20, 20 SILVICULTURAL PRESCRIPTION

STAND DESCRIPTION

The stands within the proposed treatment units (PTUs) 1, 2, and 20 primarily consist of a well-stocked multi-storied forest type. The uppermost stratum is dominated by ponderosa pine (PP) 22-24" DBH with scattered Douglas-fir (DF). The mid-story is a more even mix of PP and DF with an average DBH of 12-14". Most regeneration is comprised of DF. Western gall rust is affecting some of the PP but does not appear to be causing mortality. Bark beetles are present in small amounts within the stand (Douglas-fir beetle and flatheaded wood borer in DF and western pine beetle in PP) but not to the same extent as adjacent stands. Knapweed and sulphur cinquefoil are present within the stand, primarily along roadways but interior as well.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS
Move stands toward desired future conditions	An Individual Tree Selection (ITS) prescription would be used to reduce overall basal
Emulate natural disturbance regimes	area throughout size classes. In the upper strata, large, dominant PP would be
☑ Promote/establish regeneration	preferred for leave trees to mimic the historic fire regime of this stand type. In the mid canopy, PP would be preferred as leave trees to reinforce stand type as PP, but
Enhance stand growth and vigor	healthy and well-formed DF would also be left. Post-harvest conditions would be PP
Address insect and disease issues	dominated stand with a multi-storied stand structure. Residual tree spacing would be
Reduce fuel loading/fire hazard	an average of 30-50 feet with less space around smaller diameter trees and more
Capture value of dead/dying timber	space around larger diameter trees. However, larger gaps and clumps would exist
Generate revenue for the trust beneficiaries	throughout as harvest would be focused on leaving the phenotypically best trees and
□ Other: (specify)	largest size class) and 2 snags per acre would be present.

PRESCRIBED TREATMENT											
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments								
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage								
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage								
□ Shelterwood	Old Growth Maintenance	□ Sanitation	Weather/Blowdown Salvage								
□ check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage								

HARVEST METHOD											
Yarding: 🔽	Tractor 5	Z Skyline	$\mathbf{\Lambda}$	Combination		Excaline	Z	Other: Approved for tethered operations			
Ground conditi	ions:	Z Dry	$\mathbf{\Lambda}$	Frozen	V	Snow		Other: (specify)			
Seasonal restri	Seasonal restrictions:										
Equipment type	es/restrictions: (rub	ber tires, tracks,	cut-	to-length, etc.) Appro	oved	for tethered harves	st				
Skid trail location/spacing: Dispersed skidding where appropriate to encourage natural regeneration in openings											
Additional Infor	Additional Information:										

HAZARD REDUCTION / SLASH TREATMENT												
Slash disposal:	Pile & burn (landings)	Pile & burn (in-wo	oods)	Broadcast burn	Jackpot burn							
	☐ Masticate/Chip	□ Lop & Scatter		Hand Pile	□ Other: (specify)							
Nutrient Retention: Coarse woody debris (tons/ac): 5-15												
Additional Informa	ation: Potential for prescribed	burn in Unit 1										
SITE PREPARATION												
Method: 🗹 Timber Sale/Dispersed Skidding												
□ SI	ash unwanted regeneration	Chemical/He	erbicide	Other: (speci	fy)							
Target % scarifica	ition: 30%											
Additional Informa	Additional Information:											
- (5		REGEN	ERATION									
Type of Regenera	ition: vition: viti	Planted	☑ Existir	ng Advance								
Fill in below it pl	anting:											
Estimated Numbe	r of Seedlings to Plant:			D '								
Species:				erosa Pine	Douglas-fir							
	□ Spruce	Lodgepole Pine	□ Other	:: (specify)								
Additional Informa	ation:											
List approximate of Slash disposal/ha Site preparation: I Planting: As need Regeneration surv	dates of post-harvest treatmer zard reduction: First burn wind Dispersed skidding with possil ed after 3 year evaluation vey: 3 years post-harvest/post	t-broadcast burn	Unit 1									

TRS: T18N R27W 33 & 34	ACRES: 3: 33 Acres 4: 58 Acres 5: 90 Acres
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 5-7 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 1085 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 3, 4, 5	LAND OFFICE APPROVAL:
AGE CLASS: 150-199 years	ELEVATION: 3600'
LOZENSKY TYPE Western Larch/Douglas-fir	ASPECT: N, NW
DESIRED COVER TYPE: Ponderosa Pine	SLOPE (%): 25-65%
HABITAT TYPE: PSME/PHMA, AGBR/LIBO	FIELD CONTACT: Lauren Converse

UNITS 3, 4, 5 SILVICULTURAL PRESCRIPTION

STAND DESCRIPTION

The stands within PTUs 3, 4, and 5 consist of a medium stocked, multi-storied forest type dominated in all levels by Douglas-fir (DF). Within the uppermost and middle stratum there are also western larch (WL -15%) and ponderosa pine (PP -5%) with the occasional grand fir (GF). The understory is clumpy and is comprised of DF and GF with scattered WL. PTU 4 has been logged more recently and has more existing regeneration. This stand is affected by many diseases and insects including Douglas-fir beetle, flatheaded fir borer, dwarf mistletoe in both Douglas-fir and western larch, and root rot. This has caused significant mortality within the units and current infestations will continue to cause decline in the health of the stand. Knapweed and sulphur cinquefoil are present within the stand, primarily along roadways but interior as well.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS
☑ Move stands toward desired future conditions	A sanitation prescription will be used to address the rampant disease and insect
Emulate natural disturbance regimes	issues. In areas with less disease and insect infestation, an ITS prescription will be
☑ Promote/establish regeneration	Implement to promote regeneration seral species and move the stand toward the desired future condition. Ideally, a prescribed burn will be used in tandem with
Enhance stand growth and vigor	harvest to prepare the soil for natural regeneration of ponderosa pine and western
☑ Address insect and disease issues	larch. Large diameter ponderosa pine (PP) and western larch (WL) will prioritized as
☑ Reduce fuel loading/fire hazard	leave trees. Douglas-fir (DF) with low vigor, poor form and/or evidence of disease
Capture value of dead/dying timber	and insect infestation and western larch (WL) with low crown volume and/or signs of
Generate revenue for the trust beneficiaries	mistletoe intection will be removed. DF with good form and showing no signs of
□ Other: (specify)	and WL. Average spacing of 40' but will be highly variable with large openings made
	trees affected by insects and disease and more dense clumps where healthier trees exist.

PRESCRIBED TREATMENT				
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments	
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage	
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage	
□ Shelterwood	Old Growth Maintenance	☑ Sanitation	Weather/Blowdown Salvage	
check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage	

HARVEST METHOD				
Yarding: 🗹 Tractor	🗹 Skyline	Combination	Excaline	Other: Approved for tethered operations
Ground conditions:	🗹 Dry	Frozen	☑ Snow	□ Other: (specify)
Seasonal restrictions:	Summer	Winter	Dates: (specify)	
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.) Approved for tethered harvest				

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Skid trail location/spacing: Dispersed skidding where appropriate to encourage natural regeneration in openings				
Additional Inform	mation:			
		HAZARD REDUCTION / S	SLASH TREATMENT	-
Slash disposal:	Pile & burn (landings)	Pile & burn (in-woods	s) 🛛 Broadcast burn	Jackpot burn
	☐ Masticate/Chip	□ Lop & Scatter	□ Hand Pile	Other: (specify)
Nutrient Retenti	on: Coarse woody debris (tons/	'ac): 5-15	Return skid coars	se/fine material
Additional Inform	mation:		·	
Mathadı —	T 1 0 1 /D' 10' 1'			
Method:	Timber Sale/Dispersed Skidding	L Dozer		Broadcast Burn
	Slash unwanted regeneration	Chemical/Herbio	tide 🛛 Other: (spec	sify)
Target % scarifi	cation: 30%			
Additional Inform	mation: Potential for broadcast b	urn within Units 3 and 5		
REGENERATION				
Type of Regene	eration: Vatural	□ Planted	Existing Advance	
Fill in below if	planting: ber of Seedlings to Plant:			
Snecies:			Ponderosa Pine	
			I Other: (specify)	
Additional Inform	mation:			
ANTICIPATED FUTURE TREATMENTS				
List approximate dates of post-harvest treatments, including:				
Site preparation: Dispersed skidding with a potential for Rx burn				
Planting: As needed after 3 year evaluation				
Regeneration survey: 3 years post-harvest/post broadcast burn				

TRS: T18N R27W 27 & 34	ACRES: 6: 93 Acres 8: 91 Acres 9: 15 Acres
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 5-8 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 1304 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 6, 8, 9	LAND OFFICE APPROVAL:
AGE CLASS: 150-199 years	ELEVATION: 3800'
LOZENSKY TYPE Ponderosa Pine	ASPECT: W/NW
DESIRED COVER TYPE: Ponderosa Pine	SLOPE (%): 20-60%
HABITAT TYPE: PSME/PHMA	FIELD CONTACT: Lauren Converse

UNITS 6, 8, 9 SILVICULTURAL PRESCRIPTION

STAND DESCRIPTION

The stands within proposed treatment units 6, 8, and 9 are multi-storied and range from moderately to well-stocked. The uppermost stratum is a mix of ponderosa pine (PP 40%), Douglas-fir (30%), and western larch (WL 30%) with average DBH of 18-24". The middle stratum is dominated by DF (60%) with WL (20%) and PP (20%) with average DBH of 8-12". The understory is primarily DF with WL and PP. The understory is clumpy and variable with some areas of high density of areas where no understory exists. Dwarf mistletoe is present in some of the upper and mid-story larch, but not to the same extent as adjacent stands. Douglas-fir beetle and armillaria root rot are also causing low vigor and mortality, primarily in the upper stratum. Spotted knapweed and sulphur cinquefoil are present within the stand, primarily along roadways but interior as well.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS	
□ Move stands toward desired future conditions	An Individual Tree Selection (ITS) prescription would be used to reduce overall basal	
Emulate natural disturbance regimes	area throughout size classes. In the upper strata, large, dominant PP would be	
Promote/establish regeneration	preterred for leave trees to mimic the historic fire regime of this stand type. In the mid-canony, PP would be preferred as leave trees to reinforce stand type as PP, but	
Enhance stand growth and vigor	healthy and well-formed WL and DF would also be left. Residual tree spacing would	
☑ Address insect and disease issues	be an average of 40-60'. However, larger gaps and clumps would exist throug	
Reduce fuel loading/fire hazard	harvest would be focused on leaving the phenotypically best trees and not achieving	
Capture value of dead/dying timber	perfect spacing. A minimum of 2 tree/acre >21-inch DBH (or the next largest size	
☑ Generate revenue for the trust beneficiaries	ciass) and 2 snags per acre would be present.	
Other: (specify)		

PRESCRIBED TREATMENT					
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments		
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage		
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage		
□ Shelterwood	Old Growth Maintenance	Sanitation	Weather/Blowdown Salvage		
check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage		

HARVEST METHOD					
Yarding:	Tractor	🗹 Skyline	Combination	Excaline	Other: Approved for tethered operations
Ground co	nditions:	🗆 Dry	Frozen	□ Snow	Other: (specify)
Seasonal	restrictions:	🗆 Summe	er 🗆 Winter	Dates: (specify)	
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.) Approved for tethered harvest					
Skid trail lo	ocation/spacing:				
Additional	Information:				

	HAZARD REDUCTION / SLASH TREATMENT				
Slash dispo	osal: 🛛 🗹 Pile & burn (landings)	Pile & burn (in-wood)	ds) D	Broadcast burn	Jackpot burn
	□ Masticate/Chip	Lop & Scatter	C	Hand Pile	□ Other: (specify)
Nutrient Re	tention: Coarse woody debris (tons/	ac):		☐ Return skid coarse	e/fine material
Additional I	nformation:		-		
		SITE PREP	ARATION	J	
Method:	☑ Timber Sale/Dispersed Skidding			Excavator	Broadcast Burn
	□ Slash unwanted regeneration	Chemical/Herb	bicide	Other: (specif	fy)
Target % s	carification:				
Additional I	nformation:				
	-	REGENE	RATION		
Type of Re	generation: 🗹 Natural	Planted	🗹 Existing	g Advance	
Fill in belo	w if planting:				
Estimated I	Number of Seedlings to Plant:			<u> </u>	
Species:				rosa Pine	
		L Lodgepole Pine	☐ Other:	(specify)	
Additional I	nformation:				
ANTICIPATED FUTURE TREATMENTS					
List approx Slash dispo Site prepar Planting: A Regenerati	imate dates of post-harvest treatmen osal/hazard reduction: First burn wind ation: Dispersed skidding s needed after 3 year evaluation on survey: 3 years post-harvest	its, including: dow following harvest			

UNIT 7 SILVICULTURAL PRESCRIPTION

TRS: T18N R27W 34	ACRES: 31
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 2 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 62 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 7	LAND OFFICE APPROVAL:
AGE CLASS: 150-199	ELEVATION: 4000'
LOZENSKY TYPE Ponderosa Pine	ASPECT: W
DESIRED COVER TYPE: Ponderosa Pine	SLOPE (%): 30-60%
HABITAT TYPE: PSME/PHMA	FIELD CONTACT: Lauren Converse

STAND DESCRIPTION

This stand is a moderately stocked and multi-storied. It has been logged more recently than surrounding stands and is more open as a result. The upper stratum is primarily comprised of ponderosa pine (70%), with Douglas-fir (DF) (15%) and western larch (WL) (5%). The mid-level canopy is an even mix of DF and PP with scattered WL. Dwarf mistletoe is present in portions of the mid-canopy WL population. Regeneration is PP and DF with a component of WL. Knapweed and sulphur cinquefoil are well-established along the roadway.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS
Move stands toward desired future conditions	An Individual Tree Selection (ITS) prescription would reduce overall basal area of the
Emulate natural disturbance regimes	stand. Harvest would focus on removing poor form ponderosa pine (PP) and
Promote/establish regeneration	Douglas-fir (DF) and western larch (WL) infected with dwarf mistletoe. Most large-
Enhance stand growth and vigor	mistletoe-infected WI would be targeted for removal as would PP and DF with poor
☑ Address insect and disease issues	form or low crown ratio.
Reduce fuel loading/fire hazard	
Capture value of dead/dying timber	
Generate revenue for the trust beneficiaries	
Other: (specify)	

PRESCRIBED TREATMENT					
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments		
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage		
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage		
□ Shelterwood	Old Growth Maintenance	Sanitation	Weather/Blowdown Salvage		
□ check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage		

HARVEST METHOD				
Yarding: 🗹 Tractor	☑ Skyline	Combination	Excaline	Other: Approved for tethered operations
Ground conditions:	🗆 Dry	Frozen	□ Snow	Other: (specify)
Seasonal restrictions:	Summer	Winter	Dates: (specify)	
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)				
Skid trail location/spacing:				
Additional Information:				

		HAZARD REDUCTIO	N / SLAS	H TREATMEN	T	
Slash disposal:	Pile & burn (landings)	Pile & burn (in-working)	oods)	Broadcas	it burn 🗆	Jackpot burn
	☐ Masticate/Chip	□ Lop & Scatter		□ Hand Pile	•	Other: (specify)
Nutrient Retention	: Coarse woody debris (tons	/ac): 5-15		□ Return sł	kid coarse/fine r	naterial
Additional Informa	tion:					
				ON		
Method: 🔽 Tir	nher Sale/Dispersed Skidding				avator	Broadcast Burn
	ash unwanted regeneration		erbicide		er: (specity)	
Target % scarifica	tion:					
Additional Informa	tion:					
		REGEN	IERATIO	N		
Type of Regenera	tion: 🗹 Natural	Planted	🗹 Exist	ing Advance		
Fill in below if planting:						
Estimated Numbe	r of Seedlings to Plant:					
Species:	U White Pine	Western Larch		derosa Pine		uglas-tir
		□ Lodgepole Pine		er: (specify)		
Additional Informa	ition:					
ANTICIPATED FUTURE TREATMENTS						
List approximate of Slash disposal/ha Site preparation: I Planting: As need Regeneration surv	lates of post-harvest treatme zard reduction: First burn win Dispersed skidding ed after 3 year evaluation /ey: 3 years post-harvest	nts, including: dow following harvest				

UNIT 10 SILVICULTURAL PRESCRIPTION

TRS: T18N R27W 34	ACRES: 137
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 6 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 822 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 10	LAND OFFICE APPROVAL:
AGE CLASS: 150-199 years	ELEVATION: 4000'
LOZENSKY TYPE Western Larch/Douglas-fir	ASPECT: N
DESIRED COVER TYPE: Western Larch/Douglas-fir	SLOPE (%): 45-60%
HABITAT TYPE: ABGR/LIBO	FIELD CONTACT: Lauren Converse

STAND DESCRIPTION

This is a well-stocked, multi-storied stand. The uppermost stratum is a mix of western larch (WL 50%), Douglas-fir (DF 40%), grand fir (GF 10%) with scattered ponderosa pine (PP). Average DBH is 14-18" with scattered larger diameter (24-26") WL and PP. The middle stratum is dominated by DF (50%) with WL (20%), GF (20%) and LPP (10%) with average DBH of 7-10". The understory is primarily DF with WL and PP. Dwarf mistletoe is affecting WL in the two upper stratum, but not to the same extent as in adjacent PTU 11. The lower stratum has a similar species composition to the middle stratum and is variable throughout the stand. Spotted knapweed and Common St. John's-wort are present within the stand, primarily along roadways.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS
Move stands toward desired future conditions	An Individual Tree Selection (ITS) prescription would be used to reduce basal area
Emulate natural disturbance regimes	across all size classes. Grand fir and lodgepole pine would be removed to help
Promote/establish regeneration	maintain stand type as western larch/Douglas-fir and to emulate natural disturbance
Enhance stand growth and vigor	the existing stand structure and health. Large openings could exist in areas lacking
☑ Address insect and disease issues	healthy leave trees. A minimum of 2 tree/acre >21-inch DBH (or the next largest size
Reduce fuel loading/fire hazard	class) and 2 snags per acre would be present.
Capture value of dead/dying timber	
Generate revenue for the trust beneficiaries	

PRESCRIBED TREATMENT					
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments		
Clearcutting	Individual Tree Selection	Overstory Removal	Fire Salvage		
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage		
□ Shelterwood	Old Growth Maintenance	□ Sanitation	Weather/Blowdown Salvage		
check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage		

HARVEST METHOD				
Yarding: 🗹 Tractor	🗹 Skyline	Combination	Excaline	Other: Approved for tethered operations
Ground conditions:	🗆 Dry	Frozen	□ Snow	Other: (specify)
Seasonal restrictions:	Summer	Winter	Dates: (specify)	
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)				
Skid trail location/spacing:				
Additional Information:				

		HAZARD REDUCTION /	SLASH	H TREATMENT	
Slash disposal:	Pile & burn (landings)	Pile & burn (in-wood	ds)	□ Broadcast burn	Jackpot burn
	☐ Masticate/Chip	□ Lop & Scatter		□ Hand Pile	□ Other: (specify)
Nutrient Retention	: Coarse woody debris (tons/	/ac):		Return skid coar	rse/fine material
Additional Informa	ition:		•		
		SITE PREP	ΔΡΔΤΙΟ	אר	
Method: 🔽 Tir	mber Sale/Dispersed Skidding				Broadcast Burn
	ash unwanted regeneration	Chamical/Harb	violdo		cifu)
	ash unwanteu regeneration		liciue		(1) (1)
Target % scarifica	ition:				
Additional Informa	ition:				
		REGENEI		1	
Type of Regenera	tion: 🔽 Natural		7 Existi	ng Advance	
Fill in below if pl	anting:			ing / lavanoo	
Estimated Numbe	r of Seedlings to Plant:				
Species:	White Pine	U Western Larch	Pond	lerosa Pine	□ Douglas-fir
	Spruce	Lodgepole Pine [□ Othei	r: (specify)	
Additional Informa	ition:				
				FATMENTS	
List approximate of	dates of post-harvest treatmer	nts. includina:			
Slash disposal/ha	zard reduction: First burn wind	dow following harvest			
Site preparation: I	Dispersed skidding	-			
Planting: As needed after 3 year evaluation					
Regeneration surv	/ey: 3 years post-narvest				

TRS: T18N R27W 35	ACRES: 11: 93 Acres 12: 22 Acres 13: 47 Acres
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 7-10 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 1460 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 11, 12, 13	LAND OFFICE APPROVAL:
AGE CLASS: 100-149 years	ELEVATION: 4000'
LOZENSKY TYPE Western Larch/Douglas-fir	ASPECT: N
DESIRED COVER TYPE: Ponderosa Pine	SLOPE (%): 30-60%
HABITAT TYPE: ABGR/LIBO	FIELD CONTACT: Lauren Converse

UNITS 11, 12, 13 SILVICULTURAL PRESCRIPTION

STAND DESCRIPTION

The stands within the proposed treatment units (PTUs) 11, 12, and 13 consist primarily of a multi-storied forest type. The uppermost stratum is comprised of western larch (WL 40%), Douglas-fir (DF 30%), and ponderosa pine (PP 20%, the majority of which is found at lower elevations within the stands) with components of grand fir (GF 5%) and lodgepole pine (LLP 5%). The majority of the WL within this stratum show signs of mistletoe infection and the Douglas-fir has reduced vigor. The mid-story is comprised of DF (50%), WL (30%), GF (10%), LPP (10%), and scattered PP. The middle strata appears to be much more vigorous and less affected by insects and disease. The understory is comprised of DF, GF, WL, LPP, and scattered PP. Meadow hawkweed is present within the stands, primarily along roadways.

IREATMENT OBJECTIVES	TARGET STAND CONDITIONS
☑ Move stands toward desired future conditions	A combination of sanitation and individual tree selection (ITS) prescriptions would be
Emulate natural disturbance regimes	used to meet multiple objectives. Sanitation Rx to remove unhealthy western larch
Promote/establish regeneration	and insect infestation. ITS prescription would be used to reduce basal area across all
Enhance stand growth and vigor	size classes. Grand fir and lodgepole pine would be removed to help shift the stand
Address insect and disease issues	toward the Desired Future Condition (DFC) of ponderosa pine. Residual tree spacing
Reduce fuel loading/fire hazard	would average 30-50' but would be highly variable due to the existing stand structure
Capture value of dead/dying timber	and health. Large openings could exist in areas lacking healthy leave trees.
Generate revenue for the trust beneficiaries	
□ Other: (specify)	

PRESCRIBED TREATMENT						
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments			
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage			
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage			
□ Shelterwood	Old Growth Maintenance	Sanitation	Weather/Blowdown Salvage			
check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage			

HARVEST METHOD						
Yarding:	☑ Tractor	🗹 Skyline	Combination	Excaline	Other: Approved for tethered operations	
Ground con	ditions:	🗆 Dry	Frozen	□ Snow	Other: (specify)	
Seasonal re	estrictions:	Summer	Winter	Dates: (specify)		
Equipment	types/restrictions:	(rubber tires, tracks	s, cut-to-length, etc.) Ap	oproved for tethered harve	st	
Skid trail location/spacing:						
Additional Ir	nformation:					

	HAZARD REDUCTION / SLASH TREATMENT						
Slash dispo	osal: 🛛 🖬 Pile	e & burn (landings)	🗆 Pile & burn (in-w	oods)		Broadcast burn	Jackpot burn
	□ Masticate/Chip □ Lop & Scatter				Hand Pile	□ Other: (specify)	
Nutrient Re	etention: Coars	e woody debris (tons/	'ac): 5-15			Return skid coarse/f	fine material
Additional	Information:						
			SITE PR	FPΔRΔTI	ON		
Method:	☑ Timber Sa	le/Dispersed Skidding				Excavator	Broadcast Burn
		antod regeneration		orbioido			
		anteu regeneration		erbicide)
Target % s	carification:						
Additional	Information:						
			DECE		NI		
Tupo of Do	apparation:		REGEI				
	Type of Regeneration: V Natural Planted Existing Advance						
Fill In Delo	Will planting: Number of See	dlings to Plant:					
Snecies:					doros	a Pine D] Douglas-fir
000000					ar: (sr	necify)	
Additional	Information:				01. (0)		
ANTICIPATED FUTURE TREATMENTS							
List approx Slash dispo Site prepar Planting: A Regenerati	timate dates of psal/hazard rec ration: Disperse s needed after ion survey: 3 ye	post-harvest treatmer luction: First burn wind ed skidding 3 year evaluation ears post-harvest	nts, including: Jow following harvest				

TRS: T18N R27W 35	ACRES: 14: 89 Acres 15: 48 Acres
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 7 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 959 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 14, 15	LAND OFFICE APPROVAL:
AGE CLASS: 40-99 years	ELEVATION: 4000'
LOZENSKY TYPE Western Larch/Douglas-fir	ASPECT: N
DESIRED COVER TYPE: Western Larch/Douglas-fir	SLOPE (%): 30-60%
HABITAT TYPE: ABGR/LIBO	FIELD CONTACT: Lauren Converse

UNITS 14, 15 SILVICULTURAL PRESCRIPTION

STAND DESCRIPTION

The stands within the proposed treatment units 14 and 15 consist of a well-stocked multi-storied forest type. The uppermost stratum is composed of western larch (WL 50%), Douglas-fir (DF 20%), grand fir (GF 20%), lodgepole pine (LPP 10%) with average DBH of 14-16". The mid-stratum is primarily GF and DF with LPP and WL with average DBH of 5-10". There is scattered western white pine and western red cedar within the middle stratum. The understory is primarily DF and GF with some WL and LPP. The stands within the PTUs are variable and some areas have no understory and a very sparse overstory with most volume contained within a closed canopy of pole-sized timber. Dwarf mistletoe is affecting WL, though not as severely as in adjacent stands and the dense canopy of the midstory is causing reduced vigor and poor crown volume.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS
☑ Move stands toward desired future conditions	An Individual Tree Selection (ITS) prescription would be used to reduce overall basal
Emulate natural disturbance regimes	area throughout size classes. Healthy WL and DF would be prioritized as leave trees
Promote/establish regeneration	throughout all size classes. In 2-stoned areas, post-harvest conditions will resemble more of a seed tree post-barvest after the pole-sized timber is cut and only the
Enhance stand growth and vigor	remaining overstory trees remain.
☑ Address insect and disease issues	
Reduce fuel loading/fire hazard	
Capture value of dead/dying timber	
Generate revenue for the trust beneficiaries	
□ Other: (specify)	

PRESCRIBED TREATMENT						
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments			
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage			
Seed Tree	□ Group Selection	Commercial Thinning	Insect / Disease Salvage			
□ Shelterwood	Old Growth Maintenance	□ Sanitation	Weather/Blowdown Salvage			
□ check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage			

HARVEST METHOD							
Yarding: 🗹 Tractor	🗹 Skyline	Combination	Excaline	Other: Approved for tethered operations			
Ground conditions:	🗆 Dry	Frozen	□ Snow	Other: (specify)			
Seasonal restrictions:	Summer	Winter	Dates: (specify)				
Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)							
Skid trail location/spacing:	Skid trail location/spacing:						

Additional Inf	ormation:						
		HAZARD REDUCTIO	N / SLASH T	REATMENT			
Slash dispose	al: 🔽 Pile & burn (landings)	🗆 Pile & burn (in-w	oods) 🗹	Broadcast burn	Jackpot burn		
	☐ Masticate/Chip	□ Lop & Scatter		Hand Pile	Other: (specify)		
Nutrient Rete	ntion: Coarse woody debris (tons/a	ac): 5-15		Return skid coarse	e/fine material		
Additional Inf	ormation: Potential for prescribed b	ourn in Unit 14					
		SITE PR					
Method:	7 Timber Salo/Disported Skidding						
[[□ Slash unwanted regeneration	Chemical/H	erbicide	Other: (speci	ify)		
Target % sca	rification:						
Additional Inf	ormation:						
		REGE	NERATION				
Type of Rege	eneration: Vatural	Planted	🗹 Existing	Advance			
Fill in below	if planting:						
Estimated Nu	Imber of Seedlings to Plant:						
Species:	White Pine	Western Larch	Pondero	osa Pine	□ Douglas-fir		
	Spruce	□ Lodgepole Pine	Other: (☐ Other: (specify)			
Additional Inf	ormation:						
				THENTO			
ANTICIPATED FUTURE TREATMENTS							
List approxim	late dates of post-harvest treatmen	ts, including:					
Siash disposal/hazard reduction: First burn window following narvest							
Site preparation: Dispersed skidding							
Receneration	survey: 3 years post-harvest						
regeneration	i survey. o years post-narvest						

UNIT 16 SILVICULTURAL PRESCRIPTION

TRS: T18N R27W 35	ACRES: 44
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 5 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 220 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 16	LAND OFFICE APPROVAL:
AGE CLASS: 150-199 years	ELEVATION: 4200'
LOZENSKY TYPE Ponderosa Pine	ASPECT: W
DESIRED COVER TYPE: Ponderosa Pine	SLOPE (%): 40-60%
HABITAT TYPE: PSME/PHMA	FIELD CONTACT: Lauren Converse

STAND DESCRIPTION

A multi-storied, well-stocked stand. The uppermost stratum is dominated by Douglas-fir (DF) and ponderosa pine (PP), 60% and 40%, respectively, with an average DBH of 14". There is also scattered western larch (WL) within this stratum. The mid-canopy is comprised of DF (70%), PP (25%), with scattered WL and lodgepole pine (LPP), with an average DBH of 8". Regeneration is primarily DF (80%) and PP (20%). There is some evidence of root rot and bark beetles, primarily affecting Douglas-fir. Knapweed and sulphur cinquefoil are the primary weeds.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS
Move stands toward desired future conditions	An Individual Tree Selection (ITS) prescription would be used to reduce overall basal
Emulate natural disturbance regimes	area throughout size classes. In the upper strata, large, dominant PP would be
Promote/establish regeneration	preterred for leave trees to mimic the historic fire regime of this stand type. In the
Enhance stand growth and vigor	healthy and well-formed DF would also be left. Residual tree spacing would be an
Address insect and disease issues	average of 30-50 feet with less space around smaller diameter trees and more space
Reduce fuel loading/fire hazard	around larger diameter trees. However, larger gaps and clumps would exist
Capture value of dead/dying timber	throughout, especially in areas with root rot and bark beetles infestation.
Generate revenue for the trust beneficiaries	
□ Other: (specify)	

PRESCRIBED TREATMENT						
Even-Aged Methods	Uneven-Aged Methods	Intermediate Treatments	Salvage Treatments			
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage			
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage			
□ Shelterwood	Old Growth Maintenance	□ Sanitation	Weather/Blowdown Salvage			
□ check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage			

HARVEST METHOD							
Yarding: 🛛 T	Tractor 🛛 🗹	Skyline	Combination	Excaline	Other: Approved for tethered operations		
Ground condition	s: 🗆	Dry	Frozen	□ Snow	Other: (specify)		
Seasonal restricti	ions:	Summer	□ Winter	Dates: (specify)			
Equipment types/	/restrictions: (rubb	er tires, tracks,	cut-to-length, etc.)				
Skid trail location	/spacing:						
Additional Information	ation:						

HAZARD REDUCTION / SLASH TREATMENT						
Slash disposal:	Pile & burn (landings)	Pile & burn (in-working)	oods)	Broadcast burn	Jackpot burn	
	□ Masticate/Chip	Lop & Scatter		□ Hand Pile	□ Other: (specify)	
Nutrient Retention	n: Coarse woody debris (tons	/ac): 5-15		Return skid coar	se/fine material	
Additional Information	ation: Potential for prescribed	burn in Unit 16				
M (1 1		SITE PRE	PARAII			
Method: 🗹 Ti	mber Sale/Dispersed Skidding	g 🗆 Dozer		L Excavator	Broadcast Burn	
□ S	lash unwanted regeneration	Chemical/He	erbicide	Other: (spe	cify)	
Target % scarifica	ation:					
Additional Information	ation:					
		REGEN	IERATIO	N		
Type of Regenera	ation: 🗹 Natural	Planted	🗹 Exis	ting Advance		
Fill in below if pl	lanting:					
Estimated Numbe	er of Seedlings to Plant:					
Species:	White Pine	Western Larch	🗆 Pon	derosa Pine	🗖 Douglas-fir	
	Spruce	Lodgepole Pine	C Oth	er: (specify)		
Additional Information	ation:					
		ANTICIPATED FU	TURE IN	CEATMENTS		
List approximate dates of post-harvest treatments, including:						
Slash disposal/hazard reduction: First burn window following harvest						
Site preparation: Dispersed skidding						
Planting: As needed after 3 year evaluation						
Regeneration sur	vey: 3 years post-narvest					

TRS: T18N R27W 35	ACRES: 17: 36 Acres 19: 23 Acres
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 4-5 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 272 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 17, 19	LAND OFFICE APPROVAL:
AGE CLASS: 100-149 years	ELEVATION: 4100'
LOZENSKY TYPE Mixed Conifer	ASPECT: N
DESIRED COVER TYPE: Western Larch/Douglas-fir	SLOPE (%): 30-65%
HABITAT TYPE: ABGR/LIBO	FIELD CONTACT: Lauren Converse

Units 17, 19 SILVICULTURAL PRESCRIPTION

STAND DESCRIPTION

The stands within the proposed treatment units (PTUs) 17 and 19 primarily consist of a multi-storied forest type. The uppermost stratum is composed of western larch (WL 60%) and Douglas-fir (DF 30%) and grand fir (GF10%) with average DBH of 14". The middle stratum is composed of WL, DF, GF, and lodgepole pine (LPP) with an average DBH of 5-9". The understory is healthy and well-stocked DF, GF, with scattered WL. Dwarf mistletoe is affecting much of the WL and DF shows signs of reduced vigor and low crown volume. Knapweed and Canada thistle are present within the stand, primarily along roadways but interior as well.

TREATMENT OBJECTIVES

- ☑ Move stands toward desired future conditions
- Emulate natural disturbance regimes
- Promote/establish regeneration
- Enhance stand growth and vigor
- ☑ Address insect and disease issues
- ☑ Reduce fuel loading/fire hazard
- ☑ Capture value of dead/dying timber
- Generate revenue for the trust beneficiaries
- □ Other: (specify)

TARGET STAND CONDITIONS A sanitation prescription would be used to address insect and disease issues and remove infected WL and DF from these stands. Healthy WL and DF would be prioritized as leave trees and GF, LPP would be cut to help shift the stand towards the Desire Future Condition of western larch/Douglas-fir. Residual tree spacing would be focused on leaving the healthiest and phenotypically best trees and would be variable, with large gaps and clumps

PRESCRIBED TREATMENT								
Even-Aged Methods	Salvage Treatments							
Clearcutting	Individual Tree Selection	Overstory Removal	Fire Salvage					
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage					
□ Shelterwood	Old Growth Maintenance	☑ Sanitation	Weather/Blowdown Salvage					
□ check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage					

HARVEST METHOD							
Yarding: Tractor	🗹 Skyline	Combination	Excaline	Other: Approved for tethered operations			
Ground conditions:		Other: (specify)					
Seasonal restrictions:							
Equipment types/restrictio	Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)						
Skid trail location/spacing:							
Additional Information:							

HAZARD REDUCTION / SLASH TREATMENT								
Slash dispo	osal: 🛛 🗹 Pile	e & burn (landings)	🗆 Pile & burn (in-wo	ods)		Broadcast burn		Jackpot burn
	🗆 Ma	isticate/Chip	□ Lop & Scatter		Πŀ	land Pile		Other: (specify)
Nutrient Re	etention: Coars	e woody debris (tons/	/ac):		ΠF	Return skid coarse/fi	ine m	aterial
Additional In	nformation:							
			SITE PRE	EPARATI	ON			
Method:	☑ Timber Sa	le/Dispersed Skidding			•••	Excavator		Broadcast Burn
	□ Slash unw	anted regeneration	Chemical/He	erbicide		Other: (specify)		
Target % so	carification:							
Additional In	nformation:							
			REGEN	IERATIO	N			
Type of Rec	generation:	□ Natural	Planted	🗹 Exist	ting Ac	dvance		
Fill in below	w if planting:							
Estimated N	Number of See	dlings to Plant:						
Species:		White Pine					iglas-fir	
		Spruce	□ Lodgepole Pine		er: (sp	ecify)		
Additional I	nformation:							
List approxi Slash dispo Site prepara Planting: As Regeneratio	ANTICIPATED FUTURE TREATMENTS List approximate dates of post-harvest treatments, including: Slash disposal/hazard reduction: First burn window following harvest Site preparation: Dispersed skidding Planting: As needed after 3 year evaluation Regeneration survey: 3 years post-harvest							

UNIT 18 SILVICULTURAL PRESCRIPTION

TRS: T18N R27W 35	ACRES: 89
LAND OFFICE: Southwest	EXPECTED MBF per ACRE: 4 MBF/acre
UNIT OFFICE: Missoula	EST. HARVEST VOLUME: 356 MBF
SALE TYPE: Timber Sale	PLANNED SALE DATE: MEPA completed Spring 2025 - 15 year
	duration
EA/EIS NAME: Fourmile-Sloway Project	PLANNED FY:
TIMBER SALE NAME:	PROJECT PHASE: MEPA
CUTTING UNIT: 18	LAND OFFICE APPROVAL:
AGE CLASS: 100-149 years	ELEVATION: 3900'
LOZENSKY TYPE Mixed Conifer	ASPECT: NE-NW
DESIRED COVER TYPE: Western Larch/Douglas-fir	SLOPE (%): 30-50%
HABITAT TYPE: ABGR/LIBO	FIELD CONTACT: Lauren Converse

STAND DESCRIPTION

This is a multi-storied stand. The uppermost stratum is scattered and clumpy. It consists of Douglas-fir (DF), grand fir (GF), western larch (WL), and occasional ponderosa pine (PP). Average diameter (DBH) of trees within this stratum is 16-18". The stand is dominated by the mid-story of average DBH 7-10". This stratum is comprised of DF, GF, WL, PP, lodgepole pine (LPP), and pockets of cottonwoods along draws. The understory is primarily DF and GF. Mistletoe has infected western larch in both the upper and mid-strata.

TREATMENT OBJECTIVES	TARGET STAND CONDITIONS		
☑ Move stands toward desired future conditions	The commercial thin prescription will focus on the mid-story of the stand, removing		
Emulate natural disturbance regimes	grand fir, lodgepole pine, and infected western larch and leaving healthy western		
Promote/establish regeneration	infected western larch will be removed from the upper stratum		
Enhance stand growth and vigor	infected western fact will be removed from the upper stratum.		
☑ Address insect and disease issues			
Reduce fuel loading/fire hazard			
Capture value of dead/dying timber			
Generate revenue for the trust beneficiaries			
□ Other: (specify)			

PRESCRIBED TREATMENT							
Even-Aged Methods	Salvage Treatments						
Clearcutting	Individual Tree Selection	Overstory Removal	□ Fire Salvage				
Seed Tree	Group Selection	Commercial Thinning	Insect / Disease Salvage				
Shelterwood Old Growth Maintenance		Sanitation	Weather/Blowdown Salvage				
□ check if with reserves	Old Growth Restoration	Precommercial Thinning	Other Salvage				

HARVEST METHOD						
Yarding:	☑ Tractor	🗹 Skyline	Combination	Excaline	Other: Approved for tethered operations	
Ground conditions:		□ Snow	□ Other: (specify)			
Seasonal restrictions: Summer Winter Dates: (specify)						
Equipment t	Equipment types/restrictions: (rubber tires, tracks, cut-to-length, etc.)					
Skid trail location/spacing:						
Additional Ir	nformation:					

HAZARD REDUCTION / SLASH TREATMENT						
Slash disposal:	Pile & burn (landings)	Pile & burn (in-woo	ods)	Broadcast b	urn 🗆] Jackpot burn
	□ Masticate/Chip	Lop & Scatter		□ Hand Pile		Other: (specify)
Nutrient Retention	Coarse woody debris (tons	/ac):		Return skid coarse/fine material		
Additional Informa	tion:					
				אר		
Method: 17 Tin	hor Salo/Disporsed Skidding				tor	
	iber Sale/Dispersed Skidding					
	ash unwanted regeneration	Chemical/Her	bicide	□ Other:	(specify)	
Target % scarifica	ion:					
Additional Informa	tion:					
		REGENE	RATION	1		
Type of Regeneration: 🗹 Natural 🛛 Planted 🔅 Existing Advance						
Fill in below if pla	inting:					
Estimated Number	of Seedlings to Plant:					
Species:	White Pine	Western Larch	Pone	lerosa Pine	🗆 Do	ouglas-fir
	Spruce	Lodgepole Pine	□ Othe	r: (specify)		
Additional Informa	tion:					
ANTICIPATED FUTURE TREATMENTS						
Slash disposal/bazard reduction: First burn window following barvest						
Site preparation: Dispersed skidding						
Planting: As needed	ed after 3 year evaluation					
Regeneration surv	ey: 3 years post-harvest					