

Environmental Assessment Checklist

Project Name: Seeley West Outlet Salvage
Proposed Implementation Date: June 2026
Proponent: Clearwater, Southwestern Land Office, Montana DNRC
County: Missoula

Type and Purpose of Action

Description of Proposed Action:

The Clearwater Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Seeley West Outlet Salvage. The project is located approximately 1 mile southwest of Seeley Lake (refer to Attachments vicinity map A-1 and project map A-2) and includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	N2, N2N2SE4, N2N2SW4 Section 9, T16N-R15W	400	237
Public Buildings			
MSU 2 nd Grant	NW4, S2 Section 4, T16N-R15W	280	140
MSU Morrill			
Eastern College-MSU/Western College-U of M			
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Salvage of windthrown, root sprung, dead, or dying trees in concentrations across 337 acres cross Sections 4 and 9.
- Shelterwood harvest of on approximately 40 acres within Section 9.

- An Alternative Practice (AP) to allow the salvage of windthrow/compromised trees along the Seeley Lake Outlet. DNRC is requesting an Alternative Practice to Rule 4: (36.11.304), *Equipment Operation in the SMZ* and Rule 5: (36.11.305), *Retention of Trees in the SMZ* in the Streamside Management Zone (SMZ) of ~530 feet along the Seeley Lake Outlet (class 1 SMZ). This Alternative Practice would allow the aforementioned activities to occur in the SMZ under Rule 4 and 5, Montana guide to the Streamside Zone Law and Rules 2006 (ARM 36.11.300-313)

According to MCA 77-5-301 through 307, DNRC is authorized to administer and enforce the provisions of the SMZ Law. This Law was developed to protect the public interest of water quality and quantity within forested areas; provide for standards, oversights and penalties to ensure forest practices conserve the integrity of SMZ's; provide voluntary guidelines for wildlife management within SMZ's; and allow operators necessary flexibility to use practices appropriate to site-specific conditions in the SMZ. ARM 36.11.301 through 313 further specify the design of SMZ boundaries, allowable activities, and prohibitions within the SMZ, penalties and other related provisions.

According to MCA 77-5-304 and ARM 36.11.310, DNRC *may* approve alternative practices that are different from practices required by the SMZ Law only if such practices would be otherwise lawful and continue to conserve or not significantly diminish the integrity and function of the SMZ. This AP would allow for the 2 AP requests listed above.

Site specific mitigations are stated throughout this document and collected in Mitigations.

Proposed harvest, forest improvement treatment, and road activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	
Shelterwood	40
Selection	
Old Growth Maintenance/Restoration	
Commercial Thinning	
Salvage	337
Total Treatment Acres	
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	
Planting	55
Proposed Road Activities	# Miles
New permanent road construction	
New temporary road construction	
Road maintenance	3.5
Road reconstruction	
Road abandoned	
Road reclaimed	

Action		Quantity
Other Activities		
Duration of Activities:	Up to 3 years – not continuous	
Implementation Period:	2026-2029	

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.

Proposed Alternative Practices activities include:

Rule	Action	Quantity	
Proposed Alternative Practices			
1	Broadcast burning		acres
2	Operation of Equipment in SMZ	~530	feet
3	Tree Retention	~0.3	acres
4	Road construction		feet
5	Hazardous Materials		feet
6	Side Casting of Material		feet
7	Depositing Slash		feet
	Total Treatment Acres	~0.3	
Duration of Activities:		~ 1 week	
Implementation Period:		During Timber Permit Implementation	

The MT-DNRC’s implementation of the Streamside Management Zone (SMZ) law and rules protects and maintains the functions of a SMZ. The six functions of an SMZ, as identified in the SMZ law (77-5-301[1] MCA), are:

- Acts as an effective sediment filter to maintain water quality.
- Provides shade to regulate stream temperature.
- Supports diverse and productive aquatic and terrestrial riparian habitats.
- Protects the stream channel and banks.
- Provide large woody debris that is eventually recruited into a stream to maintain riffles, pools, and other elements of channel structure.
- Promotes floodplain stability.

Project Development

SCOPING:

- DATE:
 - April 30, 2026
- PUBLIC SCOPED:
 - The scoping notice was posted on the DNRC Website:
<https://dnrc.mt.gov/News/scoping-notice>
 - adjacent landowners, posted on DNRC website.
- AGENCIES SCOPED:
 - The U.S. Forest Service, Bureau of Land Management, and Montana Fish, Wildlife, and Parks.
- COMMENTS RECEIVED:
 - How many: Two. Jon Haufler, adjacent landowner and Southwest Crown Collaborative member, and Jon Espenschied, adjacent landowner and Snowmass RUA President.
 - Concerns: Large Douglas-fir retention during shelterwood harvest and Snowmass Road impacts.
 - Results (how were concerns addressed):
 - The shelterwood treatment is designed to retain the healthiest trees and that is expected to include a component of large diameter Douglas-fir based upon the existing conditions and tree species present.
 - Impacts to Snowmass Road such as rutting or dust is expected to be mitigated through regular road maintenance and use of a water truck, if needed.

DNRC specialists were consulted, including: *Patrick Rennie – Archeologist, Matt Lesiecki - Hydrologist and Soil Scientist and Garrett Schairer – Wildlife Biologist.*

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

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS

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

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

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

ALTERNATIVES CONSIDERED:

No-Action Alternative:

The proposed windthrow salvage and shelterwood harvest would not take place. Fuel loading conditions due to windthrow would continue to pose an increased wildfire risk to the adjacent private and residential lease lots.

The Alternative Practice would not be approved. No equipment would be allowed within the SMZ. Trees would likely be removed by lessee or firewood cutters either by dragging by truck or cut into small enough pieces to be removed by hand and used as firewood or left in place impacting the use and access to the cabin site.

Action Alternative:

Shelterwood: This harvest is a traditional prescription that is a "regenerative" harvest, designed to produce regeneration of a preferred tree species that has been chosen and has been left as a "shelter" above the regeneration. This overstory stand may later be removed. These stands within the project area are generally higher percentage of Douglas-fir and may not have an understory that could be managed after harvest. These areas are in pockets and generally were missed by the Seeley Salvage I and Clearview North timber sales. There would be around 40 acres of shelterwood treatment overall within 6 proposed pockets ranging in size from 1 to 16 acres.

Spacing after harvest is expected to be variable and would be based upon the individual tree characteristics. It would range between 33 foot- (40 trees per acre) and 25 foot- spacing (70 trees per acre) with an average of 28 foot- spacing (55 trees per acre). The average leave tree is expected to be 14" Diameter at Breast Height (DBH). A target residual basal area per acre is proposed to be around 42-75 square feet and a resulting volume harvested of 2-6 thousand board feet (mbf) per acre.

The reduction of the overstory and treatment of the existing pole-sized and understory trees generally causes a stand to produce regeneration of the remaining overstory. The reduction of the total Douglas-fir number of the overstory and increase in percentage of other species

(ponderosa pine and western larch) would promote a stand closer to pre-settlement times. The proposed stand density would make limited resources (light, water, and nutrients) more plentiful for the residual overstory trees and potential regeneration. These changes would continue the progression toward the DNRC desired future condition.

Salvage: Harvest of windthrown, root sprung, dead, or dying trees in concentrations. Species include Douglas-fir, Engelmann spruce, western larch, ponderosa pine, and lodgepole pine.

An Alternative Practice (AP) to operate equipment inside the SMZ, and deviate from retention standards would be granted, with additional mitigation measures outlined in the Alternative Practice Mitigations. This is located primarily adjacent and within the 2023 Snowmass Timber Permit harvest units.

Planting: Heavily windthrow impacted areas between Snowmass and Westside Bypass roads would be planted with ponderosa pine, western larch, and Douglas-fir.

Road Maintenance: Segments of Snowmass, Westside Bypass, and Riverview roads would be maintained, as needed, if the Action Alternative is selected. This would allow better log haul conditions by maintaining a less rutted road surface.

Impacts on the Physical Environment

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

VEGETATION:
Vegetation Existing Conditions:

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Cool and moist (westside)	Mixed	Douglas Fir	100-149	Western Larch/Douglas Fir	Salvage Harvest	4
2	Cool and moist (westside)	Mixed	Douglas Fir	100-149	Western Larch/Douglas Fir	Salvage Harvest	51
3	Moderately warm and dry (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Salvage Harvest	282 – 5% or less of the overall windthrow salvage volume.
4	Moderately cool and dry (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	3– north boundary of S9
5	Moderately cool and dry (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	1- S. of Snowmass/Westside bypass junction
6	Moderately cool and dry (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	16- west of Snowmass
7	Moderately cool and dry (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	9 - horseshoe
8	Warm and Dry (westside)	Low	Ponderosa Pine	40-99	Ponderosa Pine	Shelterwood Harvest	2 – above Double Arrow LO Rd.
9	Moderately warm and dry (westside)	Mixed	Ponderosa Pine	100-149	Ponderosa Pine	Shelterwood Harvest	3 – pothole to north
10	Moderately cool and dry (westside)	Mixed	Western Larch/Douglas Fir	100-149	Western Larch/Douglas Fir	Shelterwood Harvest	6– highbank logging west of access road

Fire Hazard/Fuels: Fire hazard and fuels in harvest units 1 and 2 consist of varying concentrations of windthrown trees. The fuel loading varies from 5 to 50 tons an acre. There is continuity in the higher concentrations and the windthrow is immediately adjacent to Wildland Urban Interface (WUI). The development includes 22 lots consisting of houses and outbuildings.

Insects and Diseases: There is a minor amount of Douglas-fir beetle activity in Unit 5. However, there is the potential for an increase in Douglas-fir beetle activity in Units 1 and 2 due to the high component of the tree species in the blowdown.

Sensitive/Rare Plants: Howell's Gumweed (*Grindelia howellii*) has been identified in the project area. There were several aquatic sensitive or rare plants in the project area that have been excluded from analysis because the proposed activities will not occur in the water.

Noxious Weeds: Cheatgrass (*Bromus tectorum*), Spotted Knapweed (*Centaurea stoebe*), Canada thistle (*Cirsium arvense*), Common Houndstongue (*Cynoglossum officinale*), Leafy Spurge (*Euphorbia virgata*), Orange Hawkweed (*Hieracium aurantiacum*), Common St. Johnswort (*Hypericum perforatum*), Oxeye Daisy (*Leucanthemum vulgare*), Dalmatian Toadflax (*Linaria dalmatica*), Sulphur Cinquefoil (*Potentilla recta*), Tall Buttercup (*Ranunculus acris*), and Common Tansy (*Tanacetum vulgare*) may all be present in the project area.

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

Comments:

No-Action:

1 Fire/Fuels: The No-Action Alternative would result in continued risk associated with the fuel loading. This is expected to have moderate direct and secondary impacts as well as low cumulative impacts.

2 Insects/Disease: The No-Action Alternative would result in continued risk of Douglas-fir beetle and other insect infestation due to the windthrow material present. This is expected to have moderate direct impacts as well as low secondary and cumulative impacts.

Action:

3 Current Cover/DFCs: The Action Alternative would salvage windthrown timber and treat up to 40 acres of standing timber under a shelterwood harvest while retaining preferred tree species for the site such as ponderosa pine, western larch, and Douglas-fir. This is expected to have low direct and secondary positive impacts to the current cover and desired future conditions.

4 Age Class: Salvage and shelterwood harvest would involve the removal of trees of various age classes. The wind events versus the salvage have impacted the age class in the respective harvest areas. The shelterwood harvest retention of the largest diameter classes and therefore assumably older trees. Both harvest prescriptions are not expected to lower the overall stands' age classes thus resulting in low direct and secondary impacts.

5 Fire/Fuels: Implementation would salvage windthrown timber, remove the fuel loading, and thin through standing timber with a shelterwood harvest. This is expected to have moderate direct and secondary positive impacts as well as low overall cumulative impacts to fire risk and fuel loading in the area.

6 Insects/Disease: Implementation would remove the windthrow concentrations and, where possible, the existing beetle-infested Douglas-fir in the shelterwood units and reduce the potential for insect infestation in the area. This is expected to have moderate direct positive impacts and low secondary impacts.

7 Noxious Weeds: The Action Alternative would involve the use of equipment in the salvage and green harvest activities. This is expected to have low direct and secondary impacts on noxious weed presence and concentration.

Vegetation Mitigations:

- Logging and road maintenance equipment that causes soil disturbance will be washed prior to entry to mitigate for additional noxious weed introduction into the area.

Reference:

Montana National Heritage Program website.

ALTERNATIVE PRACTICE:

Alternative Practice Existing Conditions:

There are windthrown and root sprung trees in concentrations within Streamside Management Zones associated with Units 1 and 2.

Comments:

Action:

1: The effect on the ability of the SMZ to act as an effective sediment filter would be expected to be minor and temporary. The area where harvest equipment would be allowed to operate is already incorporated into a yard with low lying vegetation and travel from passenger vehicles. The use of harvesting equipment to pick up tree stems would be expected to result in less ground disturbance and loose soil than if the trees were cut into smaller pieces and removed

with multiple passes from a truck or truck and trailer. Disturbed areas would be immediately grass seeded following project work.

2: The ability of the SMZ to provide shade to regulate stream temperature would not be expected to be impacted because the trees that would be removed are already on the ground or are expected to be soon. The trees on the ground are not contributing shade to the stream. The project area is also bordered by thick/tall stands of trees that are contributing shade to the large body of water.

3: The ability of the stream to support diverse and productive aquatic and terrestrial riparian habitat would not be impacted. The project area is already in use as a Cabin Site Lease which in the past has seen conversion from riparian habitat to home site. This AP would allow for the full use of that lease. The project area is also bordered by thick/tall stands of trees that are contributing to riparian habitat.

4: The stream channel and banks would be maintained by picking up any trees that have fallen into contact with the stream banks and by not allowing equipment operation within 25 feet of the ordinary high-water mark. Any stream bank trees that are root compromised and are to be removed would have the stem severed from the stump with the stump left in place.

5: The ability of the SMZ to recruit large woody debris into the stream would possibly be minorly effected by the removal trees that have had roots compromised. The area immediately up and down stream of the project area are fully stocked with large trees, shrubs, and tree regeneration. Due to the small size of the project area, large size of the stream, and protections on adjacent lands the cumulative effect on the stream as a whole would be expected to be inconsequential.

6: The ability of the SMZ to promote floodplain stability would not be expected to be effected due to small project area, current land use of the site, and mitigation measures.

7: Due to the small footprint of the proposed activities as well as the site-specific mitigation measures required during project implementation, the six functions of the SMZ would be protected and maintained, with minor temporary effects expected.

Alternative Practice Mitigations:

In addition to applicable Forestry Best Management practices the following mitigations would be required for **AP area**.

Vegetation Mitigations:

- Trees not currently blown over or with roots compromised would be retained.
- Sub merchantable trees and shrubs would be retained.

Soil Mitigations:

- Activities would be restricted to frozen/snow-covered ground conditions or less than 20% oven-dry weight at a depth of 4 inches.
- No equipment operation closer than 25 feet from Ordinary High-Water Mark.
- Minimize skidding within SMZ only to the extent necessary to remove hazardous trees and blow down.

- Blow down that is contacting the banks would be picked up and removed NOT GROUND SKIDDED.
- To the extent practicable avoid turning equipment in the SMZ.
- Grass seed any disturbed areas within the SMZ.
- Root balls not impacting Cabin would be left in place.

Water Quality Mitigations:

- Activities would be restricted to frozen/snow-covered ground conditions or less than 20% oven-dry weight at a depth of 4 inches.
- Operate equipment no closer than 25 feet from Ordinary High-Water Mark.
- Do not create or burn slash piles within the SMZ.
- Grass seed any disturbed soils.

If all mitigation measures are followed this project should have no long-term significant impacts or cumulative effects to the stream drainages.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

This project is located south and east of the Clearwater River, approximately 1.75 miles south from the outlet of Seeley Lake. Underlying geology is primarily glacial deposits as well as alluvial deposits associated with the Clearwater River. The project area is relatively wet, due to the north/east aspect and proximity to the base of the valley where surface and subsurface flow contribute to the Clearwater River (Norbeck and McDonald, 1999).

Soils near Snowmass Drive and at the north end of the project area are classified as Udorthents-Glaciercreek complex (0-8% slopes) (Udorthents refers to the material being altered by cutting and filling). These soils can be expected to be seasonally wet for extended periods of time and can be very susceptible to compaction and rutting if operated on when wet. The risk associated with these soils can be mitigated by limiting the season of use to frozen and snow-covered conditions, or strategizing skid trails to avoid low-lying and wet areas.

The bulk of the project area (64%) is made up of the Hollandlake-Beta complex (4-30% slopes). These soils have a more moderate to low compaction risk and are expected to have a longer season of use and are well suited to ground-based harvest operations if soils are dry, frozen, or snow-covered. Standing water and isolated wetlands were identified in mid-slope and up-slope portions of the project area, signaling the importance of monitoring these soils for acceptable soil moisture during operation.

Various Wilden and Winkler family soils are present towards the southern extent of the project area, particularly in areas with steeper slopes (15-30% and 30-60%). Though these are primarily gravely loams, which tend to be less erosive due to their larger grain size, skidding directly up draw bottoms and operating on the steepest slopes (>45%) should be limited wherever possible.

No signs of naturally unstable slopes were identified in the project area. Subsurface water was noted seeping from the cut slope of an existing mid-slope road. This further reinforces the importance of monitoring soil moisture during operating conditions, and ensuring all roads meet BMPs for drainage.

Existing and past disturbances

Portions of this project area have been entered during past management projects including:

- Clearview North (2019)
- Seeley Lake Salvage (2001)
- Seeley Lake Salvage 2 (2003)
- Snowmass Timber Permit (2023)

Existing roads and areas with remnant skid trails should be prioritized when planning skidding and hauling routes for this project.

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Physical Disturbance (Compaction and Displacement)	X				X				X				NA	1
Erosion	X				X				X				NA	1
Nutrient Cycling	X				X				X				NA	1
Slope Stability	X				X				X				NA	1
Soil Productivity	X				X				X				NA	1
Action														
Physical Disturbance (Compaction and Displacement)		X				X				X			Y	2, 3, 4, 5
Erosion		X				X				X			Y	2, 3, 4, 5
Nutrient Cycling		X				X				X			Y	4, 5
Slope Stability	X				X				X				Y	6
Soil Productivity		X				X				X			Y	4, 5

Comments:

1. Implementation of the no-action alternative would result in no new soil resource impacts in the project area. Soil conditions would remain unchanged from those currently on site.
2. Disturbance to soil surface and vegetation during harvest activities may result in temporary increased risk of erosion within the project area.
3. Much of the area designated for windthrow salvage is suitable for ground-based harvest, with slopes generally below 45%. Slopes exceed 45% in some areas of the proposed project area, particularly within the shelterwood units in section 9. These units are at

increased risk of displacement and erosion impacts, though these can be mitigated as described below.

4. Physical ground disturbance is expected to occur in <10% of the project area, based on previous soil disturbance modeling of timber sales completed on DNRC land (DNRC, 2011). Cumulative ground disturbance may also be minimized through the use of existing roads and skid trails.
5. Based on recommendations from Graham et al. (1994), a minimum of 12 tons/acre of coarse woody debris (CWD) would be a desired post-harvest soil cover condition in this moist Douglas-fir habitat type (DF/CARU). The action alternative would include increasing or maintaining CWD concentrations using the mitigation described below.
6. Unstable slopes were not observed in the project area. No increased risk to slope stability is expected.

Soil Mitigations:

- All road BMPs will be implement on roads used to access and haul from harvest units within the project area.
- Ground-based logging equipment (tractors, skidders, mechanical harvesters) should be limited to slopes less than 45% wherever possible. Limited use is acceptable when not causing excessive soil disturbance.
- The Contractor and Sale Administrator should agree to a general skidding plan prior to equipment operations. Skid trails would be mitigated following harvest and yarding operations with water bars and/or slash.
- 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.
 - Minimum frost depth of 4 inches.
 - Minimum snow depth of 18 inches of loose snow or 12 inches packed snow.
- A minimum of 12 tons/acre of coarse and fine woody debris should be maintained on site to meet recommended concentrations for this habitat type (Grahm et al., 1994).

References:

- DNRC, 2011. DNRC compiled soils monitoring report on timber harvest projects, 2006-2010, 1st Edition. Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, MT.
- Graham, R.T., Harvey, A.E., Jorgensen, M.F., Jain, T.B., and Page-Dumrose, D.S., 1994, Managing Course Woody Debris in Forests of the Rocky Mountains. U.S., Forest Service Research Paper INT-RP-477. Intermountain Research Station.
- Norbeck, P.M., and McDonald, C., 1999, Ground-water evaluation, Seeley Lake, Montana: Montana Bureau of Mines and Geology Open-File Report 393.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions:

The harvest area contains one unnamed Class 2 stream that flows roughly west to east, and through the mid-point of the project area. This stream does not support fish and flows less than 6 months out of the year. Due to the adjacent slopes, sections of this stream may require a 100 ft. buffer based on SMZ law. The project is also adjacent to the Clearwater River, a class 1 stream.

Several isolated wetlands exist within the project area. These are primarily located in section 9, towards the south end of the project area. These wetlands are primarily situated in areas specified for windthrow harvest and may have the potential to carry water year-round, though they are not fish bearing. A separate isolated pond is located within an abandoned borrow pit on the north side of Snowmass Drive, near the north end of the project area. This pond appears to be connected to the locally shallow groundwater and has bank vegetation indicating year-around inundation in areas. And due to its size and absence of fish, this feature would not qualify as a lake but would qualify as an isolated wetland and treated as such in equipment and harvest operations.

The project is located within the Seeley Lake municipal watershed. The reach of the Clearwater River located near the project and Seeley Lake are not listed as impaired (per the Montana Department of Environmental Quality Water Quality Standards Attainment Record in the 2020 reporting cycle).

A small amount of salvage harvest is proposed in units 1 and 2 within the SMZ of the Clearwater River, on the property of an existing cabin site lease. The windthrown and root-sprung trees are primarily on or near the bank of the river, and in some cases extend into an adjacent wetland. The blowdown is impacting the ability of the lessee to access and use their dock, and the lessee would likely remove the trees themselves would we not include the removal as part of this project. Removing these downed trees is not expected to result in loss of SMZ function of the stream, though it will require an alternative practice in order to remove downed trees that have fallen into the SMZ. The adjacent stream/wetland banks in the project area is a combination of disturbed residential lawns and otherwise healthy riparian vegetation and standing trees. See below for further information and mitigations.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality		X				X				X				1
Water Quantity	X				X				X					1
Action														
Water Quality		X				X				X			Y	2, 3
Water Quantity		X				X				X			Y	2, 4

Comments:

- With no action, there would be no impacts to water quality or quantity due to logging operations. Leaving the downed trees in their existing location would risk the potential for adjacent residents to buck, move, or remove the trees on their own. This is likely to result in impacts to the banks through many passes of foot and truck traffic while cutting up and moving the logs in several smaller pieces. Water quality impacts due to potential slash and sediment entering the stream would be likely to occur. Water *quantity* in the Clearwater River would not be impacted through the salvage operations.
- 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, and the State Forest Land Management Plan. Specific measures to limit risk to wetlands and Class 1 streams that are outlined in Rule Chapter 36.11 and include:
 - Equipment would be restricted from isolated wetlands unless frozen or snow-covered, and vegetation disturbances would be limited to merchantable trees (i.e. stumps, shrubs, and wetland plants remain undisturbed)
 - On Class 1 streams, a minimum of 10 trees would be left per 100-foot segment.
 - If there are not enough standing trees to meet the minimum number of leave trees, count the dead or down trees also.
 - When there is a salvage operation, all trees that have fallen across or in streams must be retained, unless there is a DNRC site-specific alternative practice*
**In this case, because the project includes removing downed trees from within a stream, an alternative practice from a Service Forester will be required.*
- One unnamed class 2 stream runs through the project area, and the Clearwater River is adjacent to the project area. The class 2 stream will be protected by an SMZ buffer, and the only operation near this stream is dispersed windthrow harvest, so impacts to water quality are expected to be non-detectible. Water quality impacts to the clearwater river are expected to be minimal and temporary. A small amount of sediment may be mobilized during the salvage harvest of downed trees on the bank of the adjacent wetland. The presence of an existing healthy wetland will act to settle and filter any mobilized sediments, minimizing the impact on the river itself. Sediment and nutrients

released from the shelterwood harvest units will be produced at such a distance that they are not expected to have any measurable impact on water quality in the Clearwater River.

4. Changes to stream hydrology (i.e. water quantity) would not be detectible as a result of this project. Studies correlating vegetation harvest and treatment with streamflow yield have suggested approximately 15-20% of the watershed vegetation must be harvested to have a measurable increase in water yield in similar mountain environments (Stednick, 1996; and Bosch and Hewlett, 1982). The total watershed area to the Clearwater River at this location is approximately 147 square miles. The proposed harvest area is roughly 0.6 square miles.

Water Quality & Quantity Mitigations:

The only additional water quality mitigations (beyond those already included in the project design and commitments described earlier) are associated with the SMZ harvest of windthrown trees:

- Large equipment should not be allowed to operate within 25 ft of the ordinary high water mark of the stream
- Whenever possible, trees should be lifted directly up and fully suspended while removing them from the stream. Dragging trees through the wetland and along the bank would greatly increase the risk of sediment entering the stream, and would cause unnecessary damage to the existing riparian vegetation.
- If lifting and moving a tree still attached to its root ball would result in a large amount of excess disturbance, specifically sediment mobilization, the root ball should be removed and left in place.
- Slash and small woody debris should be kept from entering the wetland as much as possible.
- Any disturbed areas along the bank of the wetland should be grass seeded to minimize erosion potential following completion of operations.

Water Resources References:

- Bosch, J.M. and J.D. Hewlett. 1982. A review of catchment experiments to determine the effect of vegetation changes on water yield and evapotranspiration. *J. Hydrology*, 55: 3-23.
- Stednick, J.D. 1996. Monitoring the effects of timber harvest on annual water yield. *J. Hydrology* 176:79-95.

FISHERIES:

Fisheries Existing Conditions:

The Clearwater River occurs to the northeast of the project area and supports a cold-water fishery that includes both bull trout and westslope cutthroat trout. Bull trout are currently listed as a threatened species under the Endangered Species Act and westslope cutthroat trout is a sensitive species. There are no fish species that occur directly within the proposed project area.

A small amount of windthrow harvest is proposed within the SMZ of the Clearwater River. The area to be impacted is within a residential cabin site lease, where trees blew over in the back lawn of a cabin, and are blocking access to the lessee's dock. These trees are mostly on the bank, but several do extend into the wetland itself. The dock is roughly 275 ft. long and extends from the bank, across an adjacent wetland, to the main stem of the Clearwater River.

The trees are situated primarily in the adjacent wetland and not in the main stem of the river, such that the benefits of stream shading and woody debris they are providing is minimal. These trees would likely be moved/removed by the lessee in the future because they are impeding the lessee's ability to use their property. It would be impractical to leave the trees in this condition in a residential area.

This is a small scale, low impact project as it relates to the entire Clearwater River system and the fisheries resources that it supports.

No-Action:

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

Action Alternative (see Fisheries table below):

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<i>No-Action</i>														
Sediment		X				X				X				1
Flow Regimes	X				X				X					
Woody Debris	X				X				X					
Stream Shading	X				X				X					
Stream Temperature	X				X				X					
Connectivity	X				X				X					
Populations	X				X				X					
<i>Action</i>														
Sediment		X				X				X			Y	2
Flow Regimes	X				X				X					
Woody Debris		X				X				X			Y	3
Stream Shading		X				X				X			Y	4
Stream Temperature	X				X				X					

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Connectivity	X				X				X					
Populations	X				X				X					

Comments:

1. With no action, logging operations would not directly contribute to sediment input to the Clearwater River. There is a potential for further disturbance should adjacent landowners move or remove the downed trees themselves in an effort to regain access to their dock. This could result in sediment contributions within the SMZ.
2. Using logging equipment to lift and remove trees from the SMZ may result in some soil disturbance along the bank of the wetland. Because the majority of the wetland is in good functioning condition, the small amount of sediment expected to be produced during operation would be filtered and its impact would be mitigated before reaching the main stem of the Clearwater River.
3. While the windthrown trees are providing potential large woody debris recruitment for the Clearwater River, removing the downed trees will not result in a change to the large woody debris conditions that existed before the wind event blew these trees over. The removal of these trees is not expected to materially impact fish habitat on the scale of the larger Clearwater River system.
4. This section of wetland bank supports healthy and abundant riparian vegetation, which supplies effective stream shading. Some disturbance during operation may occur, though the planned methodology of keeping machinery 25 ft. away from banks and fully suspending logs while moving them will work to minimize any damage or removal of existing shade-providing vegetation. Any impacts would be minimal and temporary, as the wetland vegetation would be expected to rapidly recover.

Fisheries Mitigations:

No project-specific fisheries mitigations are necessary beyond those already described in previous sections, and those which are included in the project design and other commitments.

WILDLIFE:

Wildlife Existing Conditions: The project area includes a variety of Douglas-fir/western larch ponderosa pine, and mixed conifer stands. Grizzly bears have been documented in the vicinity of the project area in the past and the project area is outside of the grizzly bear recovery zone but within the ‘non-recovery occupied habitat’ as mapped by grizzly bear researchers and managers to address increased sightings and encounters of grizzly bears in habitats outside of recovery zones. There are roughly 325 acres of suitable Canada lynx habitats in the project

area, which is split between winter foraging habitats (180 acres) and other suitable habitats (145 acres). These habitats are intermingled with 55 acres of non-Canada lynx habitats. Portions of the project area is within the Seeley Lake North bald eagle home range. Potential habitat for flammulated owls, pileated woodpeckers, fringed myotis, and hoary bats exist in the project area. Big game summer ranges exists, but no winter range exists in the project area. No elk security habitats exist in the project area nor does habitats in the project area contribute to security habitats that extend beyond the project area.

No-Action: Existing stands would continue to mature; existing coarse woody debris and broken trees/snags created by the wind event would persist. No further potential for disturbance to any wildlife species would be anticipated. No appreciable changes to grizzly bear habitats would occur. Canada lynx habitats would persist. Existing habitat attributes for bald eagles would not appreciably change. Persistence of snags and coarse woody debris could be utilized by pileated woodpeckers. Continued wildlife use at levels similar to present conditions would be anticipated. No changes in thermal cover or security habitats would be anticipated.

Action Alternative (see Wildlife table below):

Some potential for disturbance to wildlife could occur with the proposed activities. Approximately 40 acres of Douglas-fir, western larch, and ponderosa pine stands would be opened up. Existing coarse woody debris levels and some snags would be reduced with potential salvage activities, but some of each would be retained. In general, habitats for those species adapted to more-open younger forest conditions would increase in the project area, meanwhile habitats for wildlife species that prefer denser stands of mature forest, coarse woody debris, or snags would be reduced in the project area.

Wildlife	Impact								Can Impact be Mitigated?	Comment Number	
	Direct and Indirect				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High			
Threatened and Endangered Species											
Grizzly bear (<i>Ursus arctos</i>) Habitat: Recovery areas, security from human activity		X				X				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 (<i>Coccyzus americanus</i>) Habitat: Deciduous forest stands of 25 acres or more with	X				X						3

Wildlife	Impact								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
dense understories and in Montana these areas are generally found in large river bottoms										
Wolverine (<i>Gulo gulo</i>) Habitat: Alpine tundra and high-elevation boreal forests that maintain deep persistent snow into late spring	X				X					3
Sensitive Species										
Bald eagle (<i>Haliaeetus leucocephalus</i>) Habitat: Late-successional forest less than 1 mile from open water		X				X			Y	4
Black-backed woodpecker (<i>Picoides arcticus</i>) Habitat: Mature to old burned or beetle-infested forest	X				X					3
Common loon (<i>Gavia immer</i>) Habitat: Cold mountain lakes, nest in emergent vegetation	X				X					3
Fisher (<i>Martes pennanti</i>) Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian	X				X					3
Flammulated owl (<i>Otus flammeolus</i>) Habitat: Late-successional ponderosa pine and Douglas-fir forest		X				X			Y	5

Wildlife	Impact								Can Impact be Mitigated?	Comment Number	
	Direct and Indirect				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High			
Fringed myotis (<i>Myotis thysanodes</i>) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines		X				X				Y	6
Northern Hoary bat (<i>Lasiurus cinereus</i>) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges		X				X				Y	7
Peregrine falcon (<i>Falco peregrinus</i>) Habitat: Cliff features near open foraging areas and/or wetlands	X				X						3
Pileated woodpecker (<i>Dryocopus pileatus</i>) Habitat: Late-successional ponderosa pine and larch-fir forest		X				X				Y	8
Townsend's big-eared bat (<i>Plecotus townsendii</i>) Habitat: Caves, caverns, old mines	X				X						3
Big Game Species											
Elk		X				X				Y	9
Whitetail		X				X				Y	9
Mule Deer		X				X				Y	9
Bighorn Sheep	X				X						3
Other											

Comments:

1. The project area is outside of the grizzly bear recovery zone but is in the 'non-recovery occupied 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). The project area contains several open roads and exists in close proximity to numerous human residences and other forms of human disturbance. Extensive use by grizzly bears would not be expected, but occasional use by grizzly bears could occur and grizzly bears have been documented in the vicinity in the past. Individual animals could be displaced by project-related disturbance if they are in the area during proposed activities. Proposed activities could occur during the denning period or the non-denning period, but would be restricted during the spring period (April 1-June 15) when they are more than 100 feet from an open road. Minor reductions in hiding cover could reduce available habitats for grizzly bears. No changes to open road densities, security habitats, or human-related food, garbage, or other unnatural grizzly bear attractants would occur. Given their large home range sizes, existing human disturbance levels in the area, and 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 grizzly bears.

There are roughly 325 acres of suitable Canada lynx habitats in the project area, which is split between winter foraging habitats (180 acres) and other suitable habitats (145 acres). These habitats are intermingled with 55 acres of non-Canada lynx habitats. The project area is in DNRC's Seeley Lake Lynx Management Area (LMA), but is only partially covered by DNRC's Habitat Conservation Plan (HCP). Across the LMA, habitats for Canada lynx are fairly common on both DNRC-managed lands and non-DNRC lands, but in places are interspersed with unsuitable habitats. In general, some use of the project area and larger cumulative effects analysis area by Canada lynx would be possible, but extensive use of the project area is less likely given the levels of human disturbance in the vicinity and the mix of suitable and unsuitable habitats in the immediate area. Proposed salvage activities would remove coarse woody debris on roughly 343 acres (52 acres of non-suitable habitats, 180 acres of winter foraging habitats, and 111 acres of other suitable habitats). Past wind events have reduced the quality of these Canada lynx habitats and proposed salvage activities would not further change existing classes of habitats. Proposed shelterwood harvest prescriptions would largely occur in other suitable habitats (34 acres) and would convert those stands to temporary non-suitable habitats for 10-30 years. 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, lynx use of the project area could slightly decline due to the increasing openness of the stands. Minor further reductions in forested connectivity would be anticipated, but some connectivity would exist. Overall, a slight decrease in overall percentage of suitable habitats available for lynx at the project level and cumulative effects analysis area would be anticipated.

In the LMA, roughly 81% of the total potential lynx habitats on DNRC-managed lands are in the various suitable habitat classes and 19% are in the temporary non-suitable habitat category, due to the Jocko Lakes fire of 2007 and recent timber management. The subset of lands in the LMA covered by the HCP includes roughly 79% in the various suitable habitat classes. The LMA is dominated by winter foraging habitats (43% of all DNRC lands in the LMA; 35% of HCP lands in LMA), followed by other suitable (34% of all DNRC lands in the LMA; 38% of HCP lands in the LMA), with lesser amounts of temporary non-suitable (18% of all DNRC lands in the LMA; 21% of HCP lands in the

LMA) and summer foraging (5% of all DNRC lands in the LMA; 6% of HCP lands in the LMA). A sizable portion of the temporary non-suitable lynx habitats in the Jocko Lakes fire area are regenerating towards other suitable habitats and would be expected to meet the criteria for the other suitable habitats in the next 5-10 years. Following proposed activities, roughly 81% of the total potential lynx habitats on DNRC-managed lands would be in the various suitable habitat classes and 79% would be suitable in the subset covered by the HCP.

2. 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.
3. The project area is within the home range associated with the Seeley Lake North bald eagle territory. This territory has been relatively productive for more than 20 years. This territory experiences considerable levels of human disturbance associated with human residences, timber management, and various forms of summer and winter recreation. Proposed activities could occur during the early nesting season (February 1 – March 31), mid-nesting season (April 1 – June 15), late nesting season (June 16-August 15), or the non-nesting (August 16-February 1) season. Any proposed activities during the mid-nesting season (April 1 – June 15) would only be permitted within 100 feet of open roads. Negligible levels of disturbance to bald eagles could occur should any activities be conducted during the nesting period. Conversely, should activities be conducted during the non-nesting period, no disturbance to bald eagles would be anticipated. Negligible reductions in the availability of large snags or emergent trees that could be used as nest trees or perch trees could occur in the home range.
4. Potential flammulated owl habitats exist in the project area. Proposed activities would remove potential nesting and foraging substrates, but some of those nesting habitats have already been removed with the wind event. Retention of large ponderosa pine and large snags could facilitate flammulated owl use into the future. Potential foraging habitats would be expected to develop in stands as stands regenerate following proposed activities. Thus, a low risk of adverse direct, indirect, or cumulative effects to flammulated owls would be anticipated with the proposed activities.
5. 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 or immediate vicinity. Fringed myotis have not been documented in the vicinity of the project area. Proposed activities could disturb fringed myotis should they be in the area. Changes in vegetation structural attributes could change overall prey availability, but considerable foraging habitats would persist in the project and cumulative effects analysis areas. Overall, no appreciable changes to fringed myotis use of the project area or cumulative effects analysis areas would be anticipated.
6. Northern hoary bats are summer residents (June-September) across a variety of forested habitats in Montana. Northern hoary bats frequently forage over water sources near forested habitats. Northern hoary bats are generally thought to roost alone in, primarily in trees, but will also use caves, other nests, and human structures. Some use by Northern hoary bats would be possible given the varied habitats in the project area and the proximity to Seeley Lake and numerous other smaller wetlands. 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 or immediate vicinity. Northern hoary bats have not been documented in the vicinity of the project area. Proposed activities could disturb Northern hoary bats should they be in the area. 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, no appreciable changes to Northern hoary bat use of the project area or cumulative effects analysis areas would be anticipated.

7. Some potential pileated woodpecker nesting habitats and minor amounts of potential foraging habitats exist in the project area. Disturbance to pileated woodpeckers could occur if proposed activities occur during the nesting period. Proposed activities would reduce potential foraging and nesting habitats; proposed salvage activities would reduce potential foraging habitats. Areas proposed to receive green tree harvesting would likely be too open to be considered pileated woodpecker habitat following proposed treatments; the majority of areas where salvage activities would occur are largely too open already to function as pileated woodpecker habitats. 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. Since pileated woodpecker density is positively correlated with the amount of dead and/or dying wood in a stand (McClelland 1979), minor reductions in pileated woodpecker densities could occur.
8. No deer, elk, or moose winter range exists in the project area. Deer, elk, and moose may use the project area during the non-winter period. Reductions in thermal cover in small areas would occur with proposed activities. Further reductions in hiding cover would be possible with the proposed activities. No elk security habitat exists in the project area and the project area doesn't look to contribute to any other larger blocks of elk security habitats. No changes to open roads or motorized human access 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 36.11.443) are needed.
- Motorized public access will be restricted at all times on restricted roads that are opened for proposed activities.
- Minimize potential for disturbance to grizzly bears and numerous avian species by restricting activities between April 1 and June 15, except where activities are within 100 feet of an open road.
- Snags, snag recruits, and coarse woody debris will be managed according to ARM 36.11.411 through 36.11.413, 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 would be prohibited from carrying firearms while on duty.

- Food, garbage, and other attractants would be stored in a bear-resistant manner.
- Retention of patches of advanced regeneration of shade-tolerant trees, such as sub-alpine-fir and spruce, in units containing lynx habitats would break-up sight distances, provide horizontal cover, and provide forest structural attributes preferred by snowshoe hares and lynx.

Wildlife References:

McClelland, B.R. 1979. The pileated woodpecker in forests of the Northern Rocky Mountains. Pages 283-299 in Role of insectivorous birds in forest ecosystems. Academic Press.

Wittinger, W.T. 2002. Grizzly bear distribution outside of recovery zones. Unpublished memorandum on file at USDA Forest Service, Region 1. Missoula, Montana.2pp.

AIR QUALITY:

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

Comments:

1 Smoke: Under the Action Alternative, slash piles consisting of tree limbs and tops and other vegetative debris would be created throughout the project area during harvesting. These slash piles would ultimately be burned after harvesting operations have been completed.

2 Dust: Dust may be produced along the haul routes if wood is hauled and as public, noncommercial use occurs during dry conditions during and post-harvest. Dust may also occur during skidding activities.

Air Quality Mitigations:

- Burning within the project area would be short in duration and would be conducted when conditions favored good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group.
- The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days.

- Dust amounts associated with log haul may be mitigated by watering the road for dust abatement, if needed.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	X				X				X					
Aesthetics		X				X			X					1
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					
Action														
Historical or Archaeological Sites		X				X			X				Y	2
Aesthetics		X				X			X					3
Demands on Environmental Resources of Land, Water, or Energy	X				X				X					

Comments:

No-Action:

1 Aesthetics: The No-Action Alternative would have low direct and secondary effects given the potential effects of Douglas-fir bark beetle infestations. The change in color from green to bright red a year later attracts visual attention. Eventually these trees will become snags and fall. Additionally, there would continue to be visual impacts associated with the windthrown timber.

Action:

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

Because the topographic setting and geology suggest a low to moderate likelihood of the presence of cultural or palaeontologic resources, proposed timber harvest activities are

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

3 Aesthetics: The Action Alternative would have low direct and secondary effects given the more open stand conditions and greater visibility in the shelterwood units as well as the removal of the windthrown timber.

Mitigations:

- 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.

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

N/A

Impacts on the Human Population

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

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety		X			X				X					1
Industrial, Commercial and Agricultural Activities and Production	X				X				X					
Quantity and Distribution of Employment	X				X				X					
Local Tax Base and Tax Revenues	X				X				X					
Demand for Government Services	X				X				X					

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number	
	Direct				Secondary				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High			
Access To and Quality of Recreational and Wilderness Activities	X				X				X						
Density and Distribution of population and housing	X				X				X						
Social Structures and Mores	X				X				X						
Cultural Uniqueness and Diversity	X				X				X						
Action															
Health and Human Safety		X			X				X					Y	2
Industrial, Commercial and Agricultural Activities and Production	X				X				X						
Quantity and Distribution of Employment		X			X				X						3
Local Tax Base and Tax Revenues	X				X				X						
Demand for Government Services	X				X				X						
Access To and Quality of Recreational and Wilderness Activities	X				X				X						
Density and Distribution of population and housing	X				X				X						
Social Structures and Mores	X				X				X						
Cultural Uniqueness and Diversity	X				X				X						

Comments:

No-Action:

1 Health and Human Safety: The No-Action Alternative would result in continued hazardous fuel loading due to the windthrown timber concentrations immediately adjacent to residential structures as well as continued overhead hazards due to the snags. This is expected to result in low direct impacts.

Action:

2 Health and Human Safety: The proposed harvest and hauling would be expected to take 7 to 10 weeks total. During that time, there would be more log truck traffic, heavy equipment use, and associated safety risk. This is expected to result in low direct impacts.

3 Quantity and Distribution of Employment: The proposed harvest project would employ between 4 to 8 people over a short period. This project would be expected to take 7 to 10 weeks to complete proposed work.

Mitigations:

- Log truck traffic hazards would be mitigated through utilization of signage noting log truck traffic on the associated open roads.

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

- None.

Other Appropriate Social and Economic Circumstances:

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

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

Action: The timber harvest would generate additional revenue for the Montana State University and Common Schools Trusts. The estimated return to the trust for the proposed harvest is \$9,000.00 based on an estimated harvest of 300 thousand board feet (1500 tons) and an overall stumpage value of \$6.00 per ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

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

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

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?

No.

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

No.

Environmental Assessment Checklist Prepared By:

Name: Kristen Baker-Dickinson

Title: Clearwater Unit Manager

Date: June 15, 2026

Finding

Alternative Selected

After thorough review of the Seeley West Outlet Salvage Environmental Assessment (EA), project file, and public scoping, and, all applicable rules and plans, and laws, I have taken the decision to select the Action Alternative.

The Action Alternative meets the intent of the project objectives of the EA. Specifically, the proposed projects are expected to:

- 1) Contribute the DNRC's annual target of timber harvest volume as mandated by state law (77-5-221 MCA). The predicted project sawlog volume is to be around 300 thousand board feet.
- 2) Will generate revenue for the Trust Beneficiaries: MSU Second Grant School and Common Schools. Estimates are around \$9,000.00 of revenue. An estimated \$6,500.00 for Forest Improvement projects will also be received.
- 3) An Alternative Practice will be used to harvest blowdown along the Seeley Lake Outlet.
- 4) Stands within this project area that are treated with a shelterwood harvest are expected to shift toward historic conditions after the prescribed treatments have been accomplished.
- 5) The projects within this EA are designed to improve conditions adjacent to Cabin Sites along the Outlet, harvest windblown timber from this past winter, open heavier stocked along the Snowmass Road to improve stand growth and productivity.
- 6) Weed management is planned to address any increase of population after the harvest.

Significance of Potential Impacts

The EA addressed the identifiable potential resource issues through proposed mitigation measures which incorporate all applicable rules, plans, guidelines, and laws.

This approach resulted in a project in which potential effects to several resources were expected to be negligible, minimal, minor, or low. These resources will not be discussed in further detail, specifically:

Alternative Practice – Alternative Practice will be needed to allow the salvage of windthrown and/or compromised trees along the Seeley West Outlet within the DNRC Section 4 T16N R15W.

- 1) Trees that aren't windthrown or damaged would be retained.
- 2) Sub merchantable trees would be retained.
- 3) Blowdown trees that contact the bank will be elevated above the surface and moved. They will not be ground skidded.
- 4) Turning equipment within the SMZ (Streamside Management Zone) will be minimal.
- 5) Large "root balls" will not be removed unless they impact Cabin sites.
- 6) All equipment will be further than 25 feet from the Ordinary High-Water Mark.
- 7) Slash will not be piled outside of the SMZ.
- 8) All disturbed areas within the SMZ.

The application of the Alternative Practice will work in coordination of the Streamside Management Zone law (77-5-301 MCA). It helps protect the six functions of the SMZ law which are:

- Acts as an effective sediment filter to maintain water quality.
- Provides shade to regulate stream temperature.
- Supports diverse and productive aquatic and terrestrial riparian habitats.
- Protects the stream channel and banks.
- Provide large woody debris that is eventually recruited into a stream to maintain riffles, pools, and other elements of channel structure.
- Promotes floodplain stability.

Given the blowdown event, it will be necessary to use equipment within the SMZ on slightly over 500 feet, and some areas (due to the blowdown harvest) would be occurring on 0.3 acres.

Direct, indirect, and cumulative effects are expected to be low in *Soil Disturbance and Productivity, Water Quality and Quantity, and Fisheries*.

Shelterwood – Direct, indirect, and cumulative effects are expected to be low. These effects reflect mitigations and harvest plans designed to benefit forest conditions through promotion of increased stand health and diversity, decreased fuel loading, and a movement towards historic/desired future conditions including potential old growth stands. Trees also would not be progressively removed as unpaid "firewood".

The harvest design is to remove lower quality stems and open the stand to allow regeneration in the future. It will be in the areas not recently entered within section 9 T16N R15W.

Approximately 6 areas would see this treatment totaling 40 acres. The average spacing would be 28 feet (55 trees per acre). This would be variable across the stand. Given the expected changes within the stand, the average leave tree would be around 14". The long-term result would see an increase in seral trees (ponderosa pine and western larch increasing in the stand population. This would promote the existing Desired Future Condition as required by the Habitat Conservation Plan.

Weeds – Direct, indirect, and cumulative effects are expected to be low. The Action Alternative would generally provide for more weed spraying than the No-Action Alternative. It also provides mitigations through equipment cleaning and grass seeding.

Soils – Direct, indirect, and cumulative effects are expected to be low. Proposed mitigations along with contract administration are expected to control potential soil disturbance and avoid excessive impacts.

Water Resources – Direct, indirect, and cumulative effects to sediment are expected to be low regarding water quality of the action alternative. Much of this concern is answered with the Alternative Practice.

Fisheries – Direct, indirect, and cumulative effects to sediment are expected to be low regarding Fisheries of the action alternative. Much of this concern is answered with the Alternative Practice.

Wildlife - Direct, indirect, and cumulative effects to Threatened, Endangered, and Big Game species is expected to be low.

Archaeological Sites / Aesthetics / Demands on Environmental Resources - Direct, indirect, and cumulative effects to Archaeological Sites, Aesthetics, and Demands on Environmental Resources are expected to be low. However, given the topographic setting and geology suggest a low to moderate presence of palaeontologic or cultural resources. All proposed timber harvest activities are expected to have *No Effect to Antiquities*. Given the expected effects, rationale, mitigations, and overall project benefits, no significant impacts are expected with the selection of the Action Alternative.

Need for Further Environmental Analysis

EIS

More Detailed EA

No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Craig V. Nelson

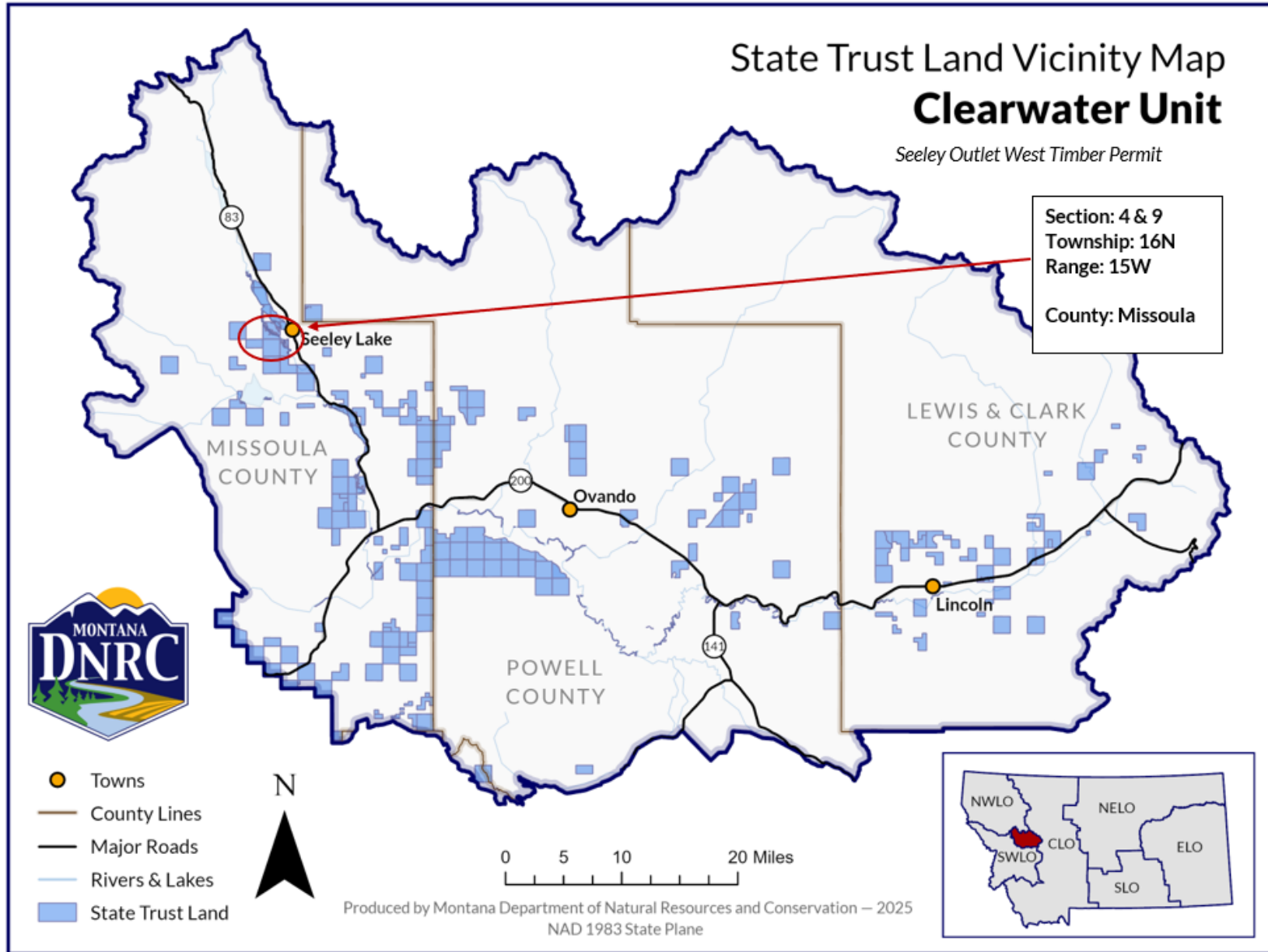
Title: Clearwater Unit Forester Management Supervisor

Date: June 16, 2026

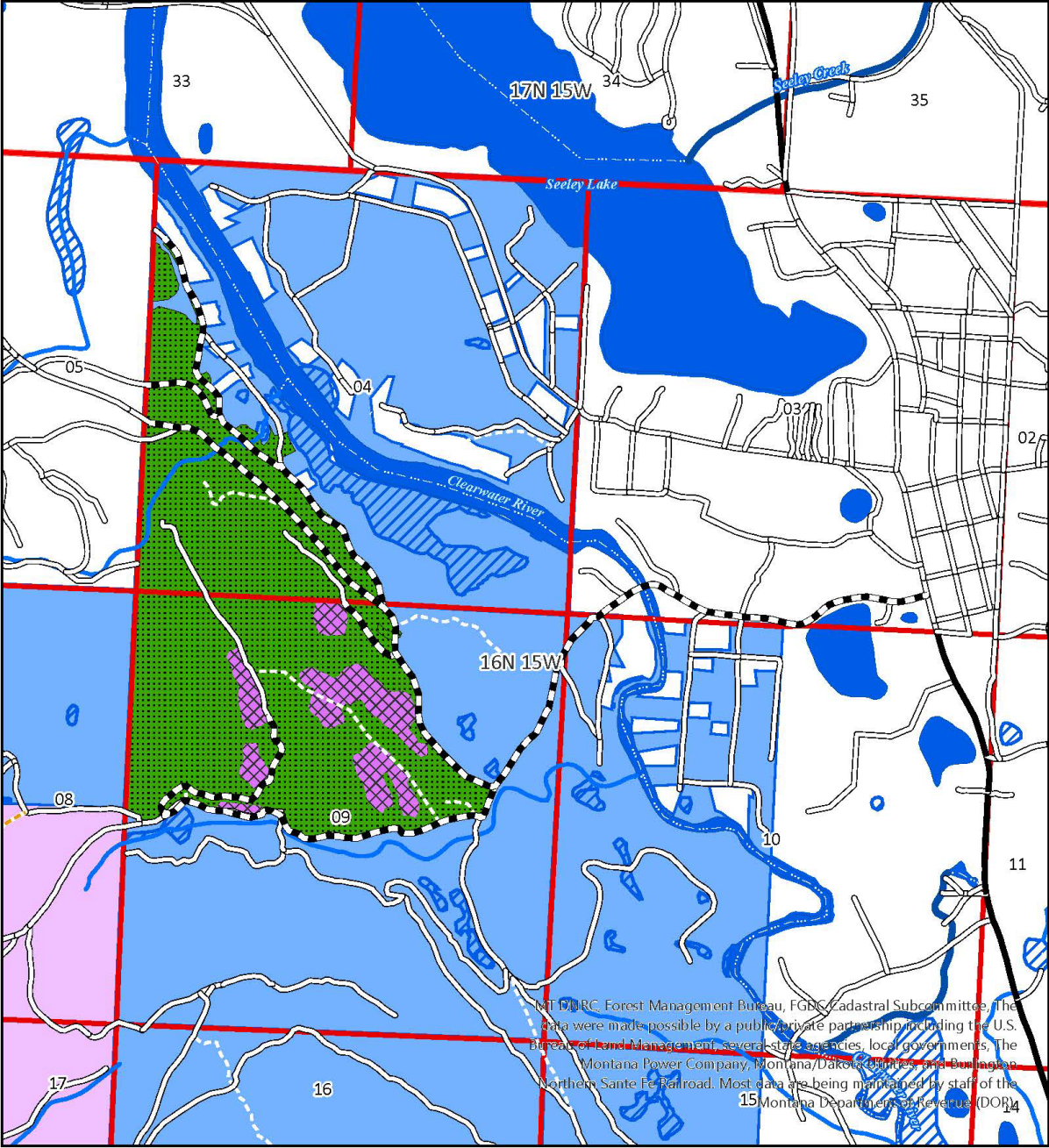
Signature: /s/ [Craig V. Nelson](#)

Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units



MT DNRC, Forest Management Bureau, FGBC Cadastral Subcommittee. The data were made possible by a public/private partnership including the U.S. Bureau of Land Management, several state agencies, local governments, The Montana Power Company, Montana/Dakota Utilities and Burlington Northern Santa Fe Railroad. Most data are being maintained by staff of the Montana Department of Revenue (DOR).

- Salvage
- Shelterwood
- Haul Route
- Nature Conservancy
- DNRC Managed Land
- PLSS First Division
- PLSS Township

SEELEY OUTLET WEST

Proposed Silvicultural Harvest Treatment Map

0 0.25 0.5 Miles

