



United States Department of the Interior

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**BLM Office:** Upper Willamette Field Office (UPW FO or FO), Northwest Oregon District

**Proposed Action Title:** HLB-MITA Salvage Project

BLM National NEPA Register Number: DOI-BLM-ORWA-N050-2021-0008-CX

**Location of Proposed Action:** T. 15 S., R. 2 E. Section 19; T. 16 S., R. 1 E., Sections 13, 21, 23, 25, 29, and 35; T. 16 S., R. 2 E., Sections 17, 19, 20, 21, 23, 27, 29, 30, and 33; and T. 17 S., R. 2 E., Sections 3, 4, 5, 7, and 9 (see map in **Appendix A, Exhibit 1**).

**Land Use Allocation (LUA):** Harvest Land Base (HLB) - Moderate Intensity Timber Area (MITA)

**CX Authority:** The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with BLM categorical exclusion 516 DM 11 at Section 11.9 C. (10) Forestry: (10), which authorizes salvage harvest of dead or dying trees on up to 3,000 acres.

## A. Background

The Holiday Farm fire started on September 7, 2020, along Highway 126 west of McKenzie Bridge, Oregon. The fire burned 173,393 acres, including approximately 18,528 acres administered by the UPW FO of the Bureau of Land Management (BLM). The fire burned unevenly across BLM lands, resulting in a mosaic of burned and unburned areas and variable burn severity. Through field reconnaissance, satellite imagery and GIS mapping, the FO initially identified 1,300 acres of the Harvest Land Base-Moderate Intensity Timber Area (HLB-MITA) land use allocation (LUA) with potential for salvage, based on the locations and concentrations of fire damaged trees. These 1,300 acres were further evaluated relative to severity of burn damage, pre-fire age class, trees per acre, and other relevant parameters to determine timber salvage units that would be economically viable to harvest. From this study area, the BLM eliminated forest stands younger than 40 years old and eliminated low burn-severity areas where there were not enough dead and dying trees to make an economically viable timber sale. Through these evaluations, the BLM eliminated approximately 400 acres from the potential HLB-MITA salvage harvest area, resulting in a project area of approximately 910 acres. See Photographs 1 and 2 in Appendix B for representative views of the post-fire burn landscape in the Holiday Farm Fire area.

## B. Proposed Action

The BLM proposes post-fire salvage through four to six commercial timber sales on up to 910 acres of BLM-administered land (see Appendix A, Exhibit 1). Salvage treatments would remove

dead and dying trees from the proposed harvest units. Salvage operations would take place over a period of approximately three years, corresponding to the period during which the dead and dying wood may remain commercially viable.

The salvage harvest would occur in the HLB-MITA LUA as defined in the 2016 Record of Decision and Resource Management Plan for Northwestern and Coastal Oregon (ROD/RMP) (USDI-BLM 2016). LUAs excluded from salvage in this project are Riparian Reserve, HLB-Low Intensity Timber Area (HLB-LITA), District Designated Reserve Areas of Critical Environmental Concern (ACEC), and Late-Successional Reserve (LSR). However, trees may need to be cut for safety or operational reasons in these LUAs, and new road construction would cross the Riparian Reserve LUA as well as HLB-MITA (see below descriptions in this section).

The proposed salvage harvest is consistent with the management direction for HLB-MITA in the ROD/RMP: *Implement timber salvage harvest after disturbance events to recover economic value and to minimize commercial loss or deterioration of damaged trees where the BLM determines that removal is economically viable* (ROD/RMP, p. 63).

This proposed action incorporates the definition of a dying tree from Departmental Manual Part 516 (NEPA) Section 11.9 (BLM Actions Eligible for a Categorical Exclusion) C. (Forestry) (10)(c) as *a standing tree that has been severely damaged by forces such as fire, wind, ice, insects, or disease, and that in the judgement of an experienced forest professional or someone technically trained for the work, is likely to die within a few years.*

The BLM would use *The Post-fire Assessment and Marking Guidelines for Conifers in Oregon and Washington* established by Hood *et al.* 2020<sup>1</sup> to identify dead and dying trees, using a 50 percent Probability of Mortality (Pm), and would factor in bole scorch and beetle activity. For instance, if a tree is host to beetles or wood borers, and boring dust and attack signs are present around > 50% of the bole circumference, the tree would be expected to die regardless of fire injury (excluding the red turpentine beetle) (Hood *et al.* 2020), and therefore would be salvaged.

Dying trees include (but are not limited to): trees with greater than 65 percent crown scorch; trees between 5 and 12 inches diameter at breast height (DBH) with greater than 50 percent deep char; and trees greater than 12 inches DBH with greater than 75 percent deep char. Deep char is where *bark has been burned into, but not necessarily to the wood; outer bark species characteristics are lost; bark looks smoothed because all ridges are gone* (Hood *et al.* 2020) (see Photograph 3 in Appendix B).

Trees not meeting these parameters of damage would be considered green trees and would not be salvage harvested. Green trees, however, may be cut for safety or operational reasons, including for yarding corridors, skid trails, guy line anchors, tail holds, cable yarding anchors, helicopter flight path trees, and road construction, road maintenance, road renovation, and road improvement<sup>2</sup>.

Trees cut for safety or operational reasons in HLB-MITA, Riparian Reserve, LSR, and DDR-ACEC may be retained within the stand or in adjacent stands as down woody material, moved

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<sup>1</sup> Hood, S.M., Ragenovich R., Schaupp B., 2020. *Post-fire Assessment of Tree Status and Marking Guidelines for Conifers in Oregon and Washington*. Report Number R6-FHP-RO-2020-02. Available at: [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd814664.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd814664.pdf).

<sup>2</sup> Definitions for these types of road work are per the O&C Logging Road Right-of-Way Handbook [BLM Handbook H-2812-1, revisions to May 2014]

for placement in streams for fish habitat restoration, or sold, at the discretion of the BLM, consistent with the management direction for each land use allocation.(see **Land Use Conformance** discussion in Section D below).

All trees greater than or equal to 40 inches DBH and that the BLM identifies were established prior to 1850, including those that suffered damage or mortality due to the fire, would be retained. The BLM identification of trees established prior to 1850 may be based on any of a variety of methods, such as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM. Where these trees are cut for safety or operational reasons, they would be retained in the unit or in an adjacent stand as down woody material.

### Yarding Methods<sup>3</sup>

Salvage harvest would consist of either ground-based yarding or cable (skyline) yarding, depending on the slope of the terrain in the salvage harvest unit (see Table 1). Helicopter yarding would be used in cases where ground-based yarding or cable yarding is not feasible (e.g., the timber sale purchaser would not be able to access the stand via a roadway to utilize either ground-based or cable yarding). The BLM would authorize the timber sale purchaser to choose its preferred option based on permitted logging methods for the slope class and other considerations, such as access, terrain, availability of equipment, and season. The BLM would require whole tree yarding or yarding with treetops attached to reduce slash (residual fuels) within salvage harvest units.

**Table 1. Logging systems allowed in each slope class.**

Logging System	Percent Slope
Ground-Based Equipment or Cable-Yarding (Skyline) with Hand or Machine Cutting/Felling	0-35*
Hand or Machine-Felled Cable Yarding	36-50*
Hand-Felled Cable Yarding	>50

\*The use of equipment on these slopes is qualified by Project Design Features (PDFs) TH-13 (for slopes up to 35 percent) and TH-14 (for slopes 35 to 50 percent) (see PDFs in section C).

### Green Tree Retention and Snags

Retention levels and patterns for individual salvage harvest units would follow the Management Direction for HLB-MITA salvage units as follow:

- In timber salvage harvest units, retain at least 5 percent of pre-harvest stand basal area in live trees or snags in individual harvest units. Retain trees and snags in a variety of spatial patterns, including aggregated groups and individual trees. (ROD/RMP p. 63).

No snag creation is required for salvage harvest and it is not a part of the proposed action.

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<sup>3</sup> Yarding is the process of moving logs or cut trees to a specific clearing, called a landing. It may include uphill, downhill, and sidehill movement.

## Roads

Construction of up to one (1) mile of permanent rock surface roads within the HLB-MITA and Riparian Reserve land use allocations would occur for inclusion into the BLM permanent transportation system. Rock for road work (new construction, renovation, and improvement) would be obtained from commercial source quarries in the vicinity of the project. After salvage harvest, these new permanent rock roads would either be left open or put into a maintenance free configuration and long-term storage state. Long-term storage roads are considered closed to vehicles and hydrologically stable on a long-term basis but may be used again in the future.

The BLM would also construct and decommission approximately one and a half (1.5) miles of temporary natural surfaced roads within the HLB-MITA and Riparian Reserve land use allocations. All construction and decommissioning work would be carried out during the dry season (July 1- October 15). After salvage harvest has occurred on these temporary roads, the BLM would decommission them using ripping and decompaction techniques, and would establish vegetative cover on the roadway and areas disturbed by the use or construction of the road to minimize erosion through native grass seeding and reforestation.

With this proposed project, the BLM would maintain, renovate, and improve roads to haul road standards within the HLB-MITA, Riparian Reserve, and LSR land use allocations. The planning information utilized to determine road mileages and applicable LUAs was included in a Road Information Memorandum for the project, incorporated herein by reference.

## Reforestation

Following salvage harvest, all units and decommissioned temporary roads would be reforested following the Management Direction for HLB-MITA:

- After salvage harvest, use natural or artificial regeneration or both to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre (including surviving trees) within 5 years of harvest (2016 ROD/RMP p. 63).

A mixture of native species seedlings composed of Douglas-fir, western hemlock, incense cedar, ponderosa pine, and western white pine would be used for reforestation. Site-specific conditions would be evaluated to determine planting composition and densities and the exact composition and mix ratio is not available at this time due to uncertainty of future supply, and would be determined at a later time.

## Post-Salvage Slash Disposal

The BLM would conduct site inspections to identify slash disposal activities. The goal of post-harvest slash disposal would be to allow planting sites for the establishment of seedlings, and/or to reduce residual harvest slash levels for fire hazard reduction. Slash disposal activities would include, but are not limited to, piling (machine or hand), slashing, chipping, biomass removal, burning or any combination of techniques that would sufficiently reduce the residual slash and vegetation. Burning techniques may include, but are not limited to, pile burning. Controlled burning (e.g. pile burning) would be completed one to three years post-harvest due to weather and air quality restrictions prescribing when burning can take place.

Slash disposal conforms to the following RMP management direction (ROD/RMP p.78):

- Conduct wildfire rehabilitation and restoration actions to protect and sustain ecosystems, ecosystem services, public health and safety, and infrastructure adversely affected by fire management operations or direct fire effects.
- Create fuel beds or fuel breaks that reduce the potential for high-intensity fire spread within the wildland urban interface and in close proximity to other highly valued resources.
- Treat both management activity fuels and natural hazardous fuels for any of the following reasons:
  - Modify the fuel profile (e.g., raise canopy base heights or reduce surface and ladder fuels and crown bulk density)
  - Reduce potential fire behavior (e.g., crown fire activity, wildfire spread, and intensity)
  - Reduce potential fire severity
  - Improve effective fire management opportunities within the Wildland Urban Interface or in close proximity to other highly valued resources. Conduct wildfire rehabilitation and restoration actions to protect and sustain ecosystems, ecosystem services, public health and safety, and infrastructure adversely affected by fire management operations or direct fire effects.
- Conduct necessary vegetation maintenance treatments to ensure that fire management operations are able to access existing natural and human-made strategic infrastructure (e.g., communication sites, pump chances and other wildfire management actions/activities water sources, key road systems, containment lines, fuel breaks, and helispots).

### **C. Project Design Features**

Project design features (PDFs) are specific measures included in the site-specific design of the proposed action to minimize adverse impacts on the human environment. Below are PDFs which would be followed in implementing the proposed action. In addition, Best Management Practices (BMPs<sup>4</sup>) listed below have been selected from the 2016 ROD/RMP (pp. 139-180) for application to project actions.

#### Timber Harvest (Forestry)

- TH-01 (ROD/RMP p. 158) Design yarding corridors crossing streams to limit the number of such corridors, using narrow widths, and using the most perpendicular orientation to the stream feasible. Minimize yarding corridor widths and space corridors as far apart as is practicable given physical and operational limitations, through practices such as setting limitations on corridor width, corridor spacing, or the amount of corridors in an area. For example, such practices could include, as effective and practicable: Setting yarding corridors at 12 to 15-foot maximum widths; and setting corridor spacing where they cross the streams to no less than 100 feet apart when

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<sup>4</sup> BMPs are practices that have been determined to be the most effective and practicable in preventing or reducing the amount of pollution generated by diffuse sources to a level compatible with water quality goals (40 CFR 130.2 (m)) (ROD/RMP p. 29).

physical, topography, or operational constraints demand, with an overall desire to keep an average spacing of 200 feet apart.

- TH-02 (ROD/RMP p. 158) Directionally-fall trees to lead for skidding and skyline yarding to minimize ground disturbance when moving logs to skid trails and skyline corridors.
- TH-03 (ROD/RMP p. 158) Require full suspension over flowing streams, non-flowing streams with highly erodible bed and banks, and jurisdictional wetlands.
- TH-04 (ROD/RMP p. 158) When logging downhill into Riparian Reserve, design the logging system to prevent converging yarding trails from intersecting the stream network.
- TH-06 (ROD/RMP p. 159) Implement erosion control measures such as waterbars, slash placement, and seeding in cable yarding corridors where the potential for erosion and delivery to waterbodies, floodplains, and wetlands exists.
- Modified TH-08 (ROD/RMP p. 159) Limit designated skid trails for salvage harvesting to  $\leq 15$  percent of the harvest unit area to reduce displacement or compaction to  $<20\%$  total detrimental soil compaction.
- TH-09 (ROD/RMP p. 159) Limit width of skid roads to single width or what is operationally necessary for the approved equipment. Where multiple machines are used, provide a minimum-sized pullout for passing.
- TH-10 (ROD/RMP p. 159) Ensure leading-end of logs is suspended when skidding.
- TH-12 (ROD/RMP p. 159) Incorporate existing skid trails and landings as a priority over creating new trails and landings, where feasible, into a designated trail network for ground-based harvesting equipment, consider proper spacing, skid trail direction and location relative to terrain and stream channel features.
- TH-13 (ROD/RMP p. 160) Limit non-specialized skidders or tracked equipment to slopes less than 35 percent, except when using previously constructed trails or accessing isolated ground-based harvest areas requiring short trails over steeper pitches. Also, limit the use of this equipment when surface displacement creates trenches, depressions, excessive removal of organic horizons, or when disturbance would channel water and sediment as overland flow.
- TH-14 (ROD/RMP p. 160) Limit the use of specialized ground-based mechanized equipment (those machines specifically designed to operate on slopes greater than 35 percent) to slopes less than 50 percent, except when using previously constructed trails or accessing isolated ground-based harvesting areas requiring short trails over steeper pitches. Also, limit the use of this equipment when surface displacement creates trenches, depressions, excessive removal of organic horizons, or when disturbance would channel water and sediment as overland flow.

- TH-15 (ROD/RMP p. 160) Designate skid trails in locations that channel water from the trail surface away from waterbodies, floodplains, and wetlands, or unstable areas adjacent to them.
- TH-16 (ROD/RMP p. 160) Apply erosion control measures to skid trails and other disturbed areas with potential for erosion and subsequent sediment delivery to waterbodies, floodplains, or wetlands. These practices may include seeding, mulching, water barring, tillage, and woody debris placement. Use guidelines from the road decommissioning section.
- TH-17 (ROD/RMP p. 160) Construct waterbars on skid trails using guidelines in Table C-6 (ROD/RMP p. 167) where potential for soil erosion or delivery to waterbodies, floodplains, and wetlands exists.
- TH-19 (ROD/RMP p. 160) Block skid trails to prevent public motorized vehicle and other unauthorized use at the end of seasonal use.

#### Silviculture

- Use whole tree yarding or yarding with tops attached in the salvage harvest areas to reduce the amount of residual slash.

#### Hydrology

- Minimize cross-channel and side-hill/down-hill yarding. Yard logs, where possible, directly up/down the slope.
- Purchaser must remove all trash from project area.
- Waterbars, culverts, and other drainage features will be constructed to specifications and technical drawings provided or as approved by resource managing BLM staff and specialists, such that all design elements are employed to ensure full performance of all drainage features.
- Inline culverts would not be constructed unless no other alternative is available to provide for ditch line drainage. Inline culverts are those constructed in the inboard ditch, typically to convey water under an intersecting road but retain water in the ditch line.
- All High-rated road treatment sites, as determined by hydrology and road engineering staff, would be treated/mitigated for water quality; sites rated Medium would be treated for infrastructure longevity<sup>5</sup> based on considerations of known future project use, future erosional potential, and funding availability.

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<sup>5</sup> High-rated treatment sites are road locations identified as immediately critical for the full performance of forest roads needed to support heavy haul traffic in all seasons. Medium-rated treatment sites are road locations identified for imminent need of treatment to support infrastructure longevity in a 5-15 year scale.

## General Construction

- R-01 (ROD/RMP p. 143) Locate temporary and permanent roads and landings on stable locations, e.g., ridge tops, stable benches, or flats, and gentle-to-moderate side slopes. Minimize road construction on steep slopes (> 60 percent).
- R-02 (ROD/RMP p. 143) Locate temporary and permanent road construction or improvement to minimize the number of stream crossings.
- R-03 (ROD/RMP p. 143) Locate roads and landings away from wetlands, Riparian Reserve, floodplains, and waters of the State, unless there is no practicable alternative. Avoid locating landings in areas that contribute runoff to channels.
- R-04 (ROD/RMP p. 143) Locate roads and landings to reduce total transportation system mileage. Renovate or improve existing roads or landings when it would cause less adverse environmental impact than new construction. Where roads traverse land in another ownership, investigate options for using those roads before constructing new roads.
- R-05 (ROD/RMP p. 143) Design roads to the minimum width needed for the intended use as referenced in BLM Manual 9113 – 1 – Roads Design Handbook (USDI BLM 2011).
- R-06 (ROD/RMP p. 143) Confine pioneer roads (i.e., clearing and grubbing of trees, stumps and boulders along a route) to the construction limits of the permanent roadway to reduce the amount of area disturbed and avoid deposition in wetlands, Riparian Reserve, floodplains, and waters of the State. Install temporary drainage, erosion, and sediment control structures, as needed to prevent sediment delivery to streams. Storm proof or close pioneer roads prior to the onset of the wet season.
- R-07 (ROD/RMP p. 144) Design road cut and fill slopes with stable angles, to reduce erosion and prevent slope failure.
- R-08 (ROD/RMP p. 144) End-haul material excavated during construction, renovation, or maintenance where side slopes generally exceed 60 percent and any slope where side-cast material may enter wetlands, floodplains, and waters of the State.
- R-09 (ROD/RMP p. 144) Construct road fills to prevent fill failure using inorganic material, compaction, buttressing, sub-surface drainage, rock facing, or other effective means.
- R-10 (ROD/RMP p. 144) Design and construct sub-surface drainage (e.g., trench drains using geo-textile fabrics and drain pipes) in landslide-prone areas and saturated soils. Minimize or avoid new road construction in these areas.
- R-11 (ROD/RMP p. 144) Locate waste disposal areas outside wetlands, Riparian Reserve, floodplains, and unstable areas to minimize risk of sediment delivery to waters



of the State. Apply surface erosion control prior to the wet season. Prevent overloading areas, which may become unstable.

- R-13 (ROD/RMP p. 144) Use temporary sediment control measures (e.g., check dams, silt fencing, bark bags, filter strips, and mulch) to slow runoff and contain sediment from road construction areas. Remove any accumulated sediment and the control measures when work or haul is complete. When long-term structural sediment control measures are incorporated into the final erosion control plan, remove any accumulated sediment to retain capacity of the control measure.

#### Permanent Stream Crossings

- R-15 (ROD/RMP p. 145) Minimize fill volumes at permanent and temporary stream crossings by restricting width and height of fill to amounts needed for safe travel and adequate cover for culverts. For deep fills (generally greater than 15 feet deep), incorporate additional design criteria (e.g., rock blankets, buttressing, bioengineering techniques) to reduce the susceptibility of fill failures.
- R-16 (ROD/RMP p. 145) Locate stream-crossing culverts on well-defined, unobstructed, and straight reaches of stream. Locate these crossings as close to perpendicular to the streamflow as stream allows. When structure cannot be aligned perpendicular, provide inlet and outlet structures that protect fill, and minimize bank erosion. Choose crossings that have well-defined stream channels with erosion-resistant bed and banks.
- R-18 (ROD/RMP p. 145) Design stream crossings to minimize diversion potential in the event that the crossing is blocked by debris during storm events. This protection could include hardening crossings, armoring fills, dipping grades, oversizing culverts, hardening inlets and outlets, and lowering the fill height.
- R-19 (ROD/RMP p. 146) Design stream crossings to prevent diversion of water from streams into downgrade road ditches or down road surfaces.
- R-20 (ROD/RMP p. 146) Place instream grade control structures above or below the crossing structure, if necessary, to prevent stream head cutting, culvert undermining and downstream sedimentation. Employ bioengineering measures to protect the stability of the streambed and banks.
- R-21 (ROD/RMP p. 146) Prevent culvert plugging and failure in areas of active debris movement with measures such as beveled culvert inlets, flared inlets, wingwalls, oversized culverts, trash racks, or slotted risers.
- R-23 (ROD/RMP p. 146) Utilize stream diversion and isolation techniques when installing stream crossings. Evaluate the physical characteristics of the site, volume of water flowing through the project area, and the risk of erosion and sedimentation when selecting the proper techniques.

- R-24 (ROD/RMP p. 147) Limit activities and access points of mechanized equipment to streambank areas or temporary platforms when installing or removing structures. Keep equipment activity in the stream channel to an absolute minimum<sup>6</sup>.
- R-26 (ROD/RMP p. 147) Disconnect road runoff to the stream channel by outsloping the road approach. If outsloping is not practicable, use runoff control, erosion control and sediment containment measures. These may include using additional cross drain culverts, ditch lining, and catchment basins. Prevent or reduce ditch flow conveyance to the stream through cross drain placement above the stream crossing.

### Surface Drainage

- R-27 (ROD/RMP p. 147) When installing temporary culverts, use washed rock as a backfill material. Use geotextile fabric as necessary where washed rock will spread with traffic and cannot be practicably retrieved.
- R-29 (ROD/RMP p. 147) Remove temporary crossing structures promptly after use. Follow practices under the Closure/Decommissioning section for removing stream crossing drainage structures and reestablishing the natural drainage.
- R-30 (ROD/RMP p. 148) Effectively drain the road surface by using crowning, insloping or outsloping, grade reversals (rolling dips), and waterbars or a combination of these methods. Avoid concentrated discharge onto fill slopes unless the fill slopes are stable and erosion-resistant.
- R-31 (ROD/RMP p. 148) Outslope temporary and permanent low volume roads to provide surface drainage on road gradients up to 6 percent unless there is a traffic hazard from the road shape.
- R-32 (ROD/RMP p. 148) Consider using broad-based drainage dips or lead-off ditches in lieu of cross drains for low volume roads. Locate these surface water drainage measures where they will not drain into wetlands, floodplains, and waters of the State.
- R-33 (ROD/RMP p. 148) Avoid use of outside road berms unless designed to protect road fills from runoff. If road berms are used, breach to accommodate drainage where fill slopes are stable.
- R-34 (ROD/RMP p. 148) Construct variable road grades and alignments (e.g., roll the grade and grade breaks) which limit water concentration, velocity, flow distance, and associated stream power.
- R-35 (ROD/RMP p. 148) Install underdrain structures when roads cross or expose springs, seeps, or wet areas rather than allowing intercepted water to flow down gradient in ditchlines.

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<sup>6</sup> Equipment may need to encroach on the stream channel during placing or realignment of culverts and to remove/replace failing or undersized stream crossings as a part of road building/maintenance.

- R-36 (ROD/RMP p. 148) Design roads crossing low-lying areas so that water does not pond on the upslope side of the road. Provide cross drains at short intervals to ensure free drainage.
- R-37 (ROD/RMP p. 149) Divert road and landing runoff water away from headwalls, slide areas, high landslide hazard locations, or steep erodible fill slopes.

### Cross Drains

- R-39 (ROD/RMP p. 149) Locate cross drains to prevent or minimize runoff and sediment conveyance to waters of the State. Implement sediment reduction techniques such as settling basins, brush filters, sediment fences, and check dams to prevent or minimize sediment conveyance. Locate cross drains to route ditch flow onto vegetated and undisturbed slopes.
- R-40 (ROD/RMP p. 149) Space cross drain culverts at intervals sufficient to prevent water volume concentration and accelerated ditch erosion. At a minimum, space cross drains at intervals referred to in the BLM Road Design Handbook 9113-1 (USDI BLM 2011, Illustration 11 –‘Spacing for Drainage Lateral.’). Increase cross drain frequency through erodible soils, steep grades, and unstable areas.
- R-41 (ROD/RMP p. 149) Choose cross drain culvert diameter and type according to predicted ditch flow, debris and bedload passage expected from the ditch. Minimum diameter is 18 inches.
- R-42 (ROD/RMP p. 149) Locate surface water drainage measures (e.g., cross drain culverts, rolling dips and water bars) where water flow will be released on convex slopes or other stable and non-erosive areas that will absorb road drainage and prevent sediment flows from reaching wetlands, floodplains, and waters of the State. Where practicable locate surface water drainage structures above road segments with steeper downhill grade. Locate cross drains at least 50 feet from the nearest stream crossing and allow for a sufficient non-compacted soil and vegetative filter.
- R-44 (ROD/RMP p. 150) Discharge cross drain culverts at ground level on non-erodible material. Install downspout structures or energy dissipaters at cross drain outlets or drivable dips where alternatives to discharging water onto loose material, erodible soils, fills, or steep slopes are not available.
- R-45 (ROD/RMP p. 150) Cut protruding (‘shotgun’) culverts at the fill surface or existing ground. Install downspout or energy dissipaters to prevent erosion. A shotgun culvert is one that extends out from the fill surface creating a vertical drop that can cause erosion of the fill surface.
- R-46 (ROD/RMP p. 150) Skew cross drain culverts 45–60 degrees from the ditchline and provide pipe gradient slightly greater than ditch gradient to reduce erosion at cross drain inlet.

- R-47 (ROD/RMP p. 150) Provide for unobstructed flow at culvert inlets and within ditch lines during and upon completion of road construction prior to the wet season.

#### Timing of In-water Work

- R-48 (ROD/RMP p. 150) Conduct all nonemergency in-water work during the ODFW instream work window, unless a waiver is obtained from permitting agencies. Avoid winter sediment and turbidity entering streams during in-water work to the extent practicable.
- R-49 (ROD/RMP p. 150) Remove stream crossing culverts and entire in-channel fill material during ODFW instream work period.

#### Maintaining Water Quality – Non-native Invasive Plants, including Noxious Weeds

- R-53 (ROD/RMP p. 152) Locate equipment-washing sites in areas with no potential for runoff into wetlands, Riparian Reserve, floodplains, and waters of the State. Do not use solvents or detergents to clean equipment on site.

#### Erosion Control Methods

- R-61 (ROD/RMP p. 152) During roadside brushing, remove vegetation by cutting rather than uprooting.
- R-62 (ROD/RMP p. 152) Limit road and landing construction, reconstruction, or renovation activities to the dry season. Keep erosion control measures concurrent with ground disturbance to allow immediate stormproofing.
- Modified R-63 (ROD/RMP p. 153) Apply native seed and certified weed-free mulch to cut and fill slopes, ditchlines, and waste disposal sites with the potential for sediment delivery to wetlands, Riparian Reserve, floodplains and waters of the State to promote a rapid ground cover and prevent aggressive invasive plants. Apply seed upon completion of construction and as early as practicable to increase germination and growth. Reseed if necessary to accomplish erosion control. Select seed species that are fast-growing, provide ample ground cover, and have adequate soil-binding properties. Apply mulch that will stay in place and at site-specific rates to prevent erosion.
- R-64 (ROD/RMP p. 153) Place sediment-trapping materials or structures such as straw bales, jute netting, or sediment basins at the base of newly constructed fill or side slopes where sediment could be transported to waters of the State. Keep materials away from culvert inlets or outlets.
- R-66 (ROD/RMP p. 153) Suspend ground-disturbing activity if projected forecasted rain will saturate soils to the extent that there is potential for movement of sediment from the road to wetlands, floodplains, and waters of the State. Cover or temporarily stabilize exposed soils during work suspension. Upon completion of ground-disturbing activities, immediately stabilize fill material over stream crossing structures. Measures could

include but are not limited to erosion control blankets and mats, soil binders, soil tackifiers, or placement of slash.

### Road Maintenance

- R-69 (ROD/RMP p. 154) Prior to the wet season, provide effective road surface drainage maintenance. Clear ditch lines in sections where there is lowered capacity or is obstructed by dry ravel, sediment wedges, small failures, or fluvial sediment deposition. Remove accumulated sediment and blockages at cross-drain inlets and outlets. Grade natural surface and aggregate roads where the surface is uneven from surface erosion or vehicle rutting. Restore crowning, outsloping or insloping for the road type for effective runoff. Remove or provide outlets through berms on the road shoulder. After ditch cleaning prior to hauling, allow vegetation to reestablish or use sediment entrapment measures (e.g., sediment trapping blankets and silt fences).
- R-71 (ROD/RMP p. 154) Maintain water flow conveyance, sediment filtering and ditch line integrity by limiting ditch line disturbance and groundcover destruction when machine cleaning within 200 feet of road stream crossings.
- R-72 (ROD/RMP p. 154) Avoid undercutting of cut-slopes when cleaning ditch lines.
- R-73 (ROD/RMP p. 154) Remove and dispose of slide material when it is obstructing road surface and ditch line drainage. Place material on stable ground outside of wetlands, Riparian Reserve, floodplains, and waters of the State. Seed with native seed and weed-free mulch.
- R-74 (ROD/RMP p. 155) Do not sidecast loose ditch or surface material where it can enter wetlands, Riparian Reserve, floodplains, and waters of the State.
- R-75 (ROD/RMP p. 155) Retain low-growing vegetation on cut-and-fill slopes.
- R-76 (ROD/RMP p. 155) Seed and mulch cleaned ditch lines and bare soils that drain directly to wetlands, floodplains, and waters of the State, with native species and weed-free mulch.

### Road Storm-proofing

- R-77 (ROD/RMP p. 155) Inspect and maintain culvert inlets and outlets, drainage structures and ditches before and during the wet season to diminish the likelihood of plugged culverts and the possibility of washouts.
- R-78 (ROD/RMP p. 155) Repair damaged culvert inlets and downspouts to maintain drainage design capacity.
- R-79 (ROD/RMP p. 155) Blade and shape roads to conserve existing aggregate surface material, retain or restore the original cross section, remove berms and other irregularities that impede effective runoff or cause erosion, and ensure that surface runoff is directed into vegetated, stable areas.

- R-80 (ROD/RMP p. 155) Stormproof open resource roads receiving infrequent maintenance to reduce road erosion and reduce the risk of washouts by concentrated water flows. Stormproof temporary roads if retained over winter.
- R-81 (ROD/RMP p. 155) Suspend stormproofing/ decommissioning operations and cover or otherwise temporarily stabilize all exposed soil if conditions develop that cause a potential for sediment-laden runoff to enter a wetland, floodplain, or waters of the State. Resume operations when conditions allow turbidity standards to be met.

#### Road Closure and Decommissioning

- R-83 (ROD/RMP p. 156) Decommission temporary roads upon completion of use.
- R-84 (ROD/RMP p. 156) Prevent use of vehicular traffic utilizing methods such as gates, guard rails, earth/log barricades, to reduce or eliminate erosion and sedimentation due to traffic on roads.
- R-85 (ROD/RMP p. 156) Convert existing drainage structures such as ditches and cross drain culverts to a long-term maintenance free drainage configuration such as an outsloped road surface and waterbars.
- R-86 (ROD/RMP p. 156) Place and remove temporary stream crossings during the dry season, without overwintering, unless designed to accommodate a 100-year flood event. See also R 49.
- Modified R-87 (ROD/RMP p. 156) Place excavated material from removed stream crossings on stable ground. In some cases, the material could be used for recontouring old road cuts or be spread across roadbed and treated to prevent erosion.
- R-88 (ROD/RMP p. 156) Reestablish stream crossings to the natural stream gradient. Excavate sideslopes back to the natural bank profile. Reestablish natural channel width and floodplain.
- R-89 (ROD/RMP p. 156) Install cross ditches or waterbars upslope from stream crossing to direct runoff and potential sediment to the hillslope rather than deliver it to the stream.
- R-90 (ROD/RMP p. 157) Following culvert removal and prior to the wet season, apply erosion control and sediment trapping measures (e.g., seeding, mulching, straw bales, jute netting, and native vegetative cuttings) where sediment can be delivered into wetlands, Riparian Reserve, floodplains, and waters of the State.
- R-91 (ROD/RMP p. 157) Implement tillage measures, including ripping or subsoiling to an effective depth. Treat compacted areas including the roadbed, landings, construction areas, and spoils sites.

#### Wet-Season Road Use

- R-93 (ROD/RMP p. 157) On active haul roads, during the wet season, use durable rock surfacing and sufficient rock depth to resist rutting or development of sediment on road surfaces that drain directly to wetlands, floodplains, and waters of the State.

- R-94 (ROD/RMP p. 157) Prior to winter hauling activities, implement structural road treatments such as: increasing the frequency of cross drains, installing sediment barriers or catch basins, applying gravel lifts or asphalt road surfacing at stream crossing approaches, and armoring ditch lines.
- R-95 (ROD/RMP p. 157) Remove snow on surfaced roads in a manner that will protect the road and adjacent resources. Retain a minimum layer (4") of compacted snow on the road surface. Provide drainage through the snow bank at periodic intervals to allow snowmelt to drain off the road surface.
- R-97 (ROD/RMP p. 157) Maintain road surface by applying appropriate gradation of aggregate and suitable particle hardness to protect road surfaces from rutting and erosion under active haul where runoff drains to wetlands, Riparian Reserve, floodplains, and waters of the State.

#### Spill Prevention and Abatement

- SP-03 (ROD/RMP p. 176) Inspect and clean heavy equipment as necessary prior to moving on to the project site, in order to remove oil and grease, nonnative invasive plants, including noxious weeds, and excessive soil. Inspect hydraulic fluid and fuel lines on heavy-mechanized equipment for proper working condition. Where practicable, maintain and refuel heavy equipment a minimum of 150 feet away from streams and other waterbodies. Refuel small equipment (e.g. chainsaws and water pumps) at least 100 feet from waterbodies (or as far as practicable from the waterbody where local site conditions do not allow a 100-foot setback) to prevent direct delivery of contaminants into a waterbody. Refuel small equipment from no more than 5-gallon containers. Use absorbent material or a containment system to prevent spills when re-fueling small equipment within the stream margins or near the edge of waterbodies. In the event of a spill or release, take all reasonable and safe actions to contain the material. Specific actions are dependent on the nature of the material spilled. Use spill containment booms or as required by ODEQ. Have access to booms and other absorbent containment materials. Immediately remove waste or spilled hazardous materials (including but not limited to diesel, oil, hydraulic fluid) and contaminated soils near any stream or other waterbody, and dispose of it/them in accordance with the applicable regulatory standard. Notify Oregon Emergency Response System of any spill over the material reportable quantities, and any spill not totally cleaned up after 24 hours. Store equipment containing reportable quantities of toxic fluids outside of Riparian Reserve.
- SP-05 (ROD/RMP p. 177) Spill Prevention, Control, and Countermeasure Plan (SPCC): All operators shall develop a modified SPCC plan prior to initiating project work if there is a potential risk of chemical or petroleum spills near waterbodies. The SPCC plan will include the appropriate containers and design of the material transfer locations. No interim fuel depot or storage location other than a manned transport vehicle would be used.

- SP-06 (ROD/RMP p. 177) Spill Containment Kit (SCK): All operators shall have a SCK as described in the SPCC plan on-site during any operation with potential for run-off to adjacent waterbodies. The SCK will be appropriate in size and type for the oil or hazardous material carried by the operator
- SP-07 (ROD/RMP p. 178) Operators shall be responsible for the clean-up, removal, and proper disposal of contaminated materials from the site.

### Soils

- Modified BMP TH-11 (ROD/RMP p. 159) Restrict non-road, in unit, ground-based equipment used for harvesting operations to periods of low soil moisture, generally from July 1 to Oct 15. Low soil moisture varies by texture and is based on site-specific considerations. Low soil moisture limits will be determined by qualified specialists to determine an estimated soil moisture and soil texture.
- In areas where there is overlap of prior management activities, equipment leaving the roadway will be limited to a single pass. If multiple passes are needed for operational feasibility, the skid trail will be ripped and slash will be placed in a discontinuous pattern on top of the ripped surface where available.

### Wildlife

- To ensure that project actions would not result in incidental take of northern spotted owls, the following measures would apply:
  - The BLM will implement seasonal restrictions as described in the Biological Assessment for Timber Harvest and Routine Activities that are Likely to Adversely Affect Listed Species and Critical Habitat on the Columbia River Gorge National Scenic Area, Mt. Hood National Forest, Willamette National Forest, and the NWO BLM (2019, pp. 20-24) to avoid noise disruption to spotted owls.
  - The BLM will conduct spotted owl surveys using the current survey protocol (currently the US Fish and Wildlife Service's 2012 Protocol for Surveying Proposed Management Activities that may Impact Northern Spotted Owls). If the BLM detects a spotted owl or a *Strix* unknown species within a project area, occupancy status is unknown, and the project would adversely affect spotted owls if the area were known to be occupied, then the Field Office wildlife biologist would coordinate with the U.S. Fish and Wildlife Service to ensure that project activities would not result in incidental take.
- The BLM would discontinue any project activity(s) when any of the following species would be affected in a manner that is inconsistent with applicable management direction in the ROD/RMP and/or applicable laws and policies: Threatened or endangered terrestrial species protected under the Endangered Species Act of 1973 (as amended) or the Bald and Golden Eagle Act of 1940 (as amended); Federal species proposed, or a candidate for, listing under the Endangered Species Act of 1973 (as amended); BLM Special Status Species protected under the RMP/BLM Manual 6840; other species identified for protection or management under the ROD/RMP (pp. 95-102).



## Fuels

- Minimize amount of surface fuel loading from harvest activities. To minimize fire hazard and facilitate reforestation slash remaining post treatment should not exceed 6 inches in depth where operationally feasible. Treatment recommendations would be based on a fuels assessment completed by the Fuels Specialist, in consultation with other relevant specialists. The type of treatment would depend on site conditions after salvage. Slash disposal would include chipping, lop-and-scatter, hand piling and covering, machine piling and covering, and pile burning.
- Provide an approved prescribed fire plan prior to ignition of all prescribed burn units in compliance with the current Interagency Prescribed Fire Planning and Implementation Procedures Guided (PMS 484).
- To prevent fire escapes and to minimize resource damage, schedule pile burning to occur when weather and fuel conditions limit fire spread outside the pile. When determined feasible by the Fuels Specialist, and in accordance with the burn plan, piles would be burned in the first wet season following completion of harvest.
- To prevent detrimental soil disturbance, burn slash piles when soil and duff moisture content is high.
- Conduct prescribed burning in compliance with Oregon Department of Forestry's Smoke Management Plan. Smoke emission control may include, but is not limited to, conducting mop-up as soon as possible after ignition is complete, covering hand piles to permit burning during the rainy season, and burning lighter fuels with lower fuel moistures to facilitate rapid and complete combustion, while burning larger fuels with higher moisture levels to minimize consumption.
- The BLM would apply the following requirements when hand, machine, or landing piling, as determined by the Fuels Specialist:
  - Piles would be located at least 20 feet from property lines, culverts, large snags, green trees, and other reserved trees to minimize damage, where operationally feasible.
  - Piles shall be clean and free of dirt. Piles shall not be constructed on top of stumps or down woody material. Slash shall be piled by a machine equipped with a hydraulic thumb or a controllable grapple head.
  - Woody debris greater than 12 inches in diameter would be retained on site and would not be piled.
  - Piles would be covered with 4 mil (.004 inch thick) polyethylene plastic. The plastic would adequately cover the pile to ensure ignition and would be placed and anchored to help facilitate the consumption of fuels during the high moisture fall/winter burning periods.

## Botany

### *Rare Plants and Fungi*

- Project areas that have not been surveyed for Bureau Special Status (Threatened, Endangered or Sensitive) Plants within the last ten years will be surveyed in 2021 before operations commence. Surveys may occur from May 15 through August 30.
- Any Bureau Special Status plant sites located will be buffered from activities to avoid direct disturbance to the plants and to retain overstory shading as appropriate to the particular species found during surveys.
- Minimize direct disturbance to surviving intact or resprouting oak trees. Do not plant conifers within 50 feet of oaks and remove conifers within 50 feet of oaks, except where oaks are so numerous that this specification would preclude formation of a mixed hardwood/conifer community.

### *Invasive Weeds and Seeding*

- Clean all yarding and road construction equipment prior to arrival on BLM-managed lands to lessen the spread of noxious weed seed.
- Aggregate used for road construction, improvement and renovation would be recently crushed rock from active quarry sites, or from sites inspected by BLM personnel and found to be weed-free.
- Sow native grass seed on decommissioned, tilled roads, and other areas as appropriate, after operations have been completed.
- Monitoring by BLM Botanical staff will occur for at least 3 consecutive years after timber sale implementation, and infestations will be controlled when discovered, on a priority basis. Weed treatments are prioritized based on potential risk of weed spread, other Field Office priorities, and availability of funding and resources.

## Cultural

### *Within Known Cultural Sites*

- All cultural resource sites listed or potentially eligible for listing on the National Register of Historic Places (NRHP) shall be avoided by all project actions. Avoidance of cultural resource sites may not be required if BLM completes NRHP evaluations prior to project implementation and non-eligibility determinations are made in consultation with SHPO.
- Boundaries of cultural resource sites listed or potentially eligible for listing on the National Register of Historic Places (NRHP) would be demarcated by BLM cultural resource staff in the field. BLM project managers would be informed of site locations during layout to ensure effective avoidance of all cultural resources.
- If any unknown cultural and/or paleontological resource (historic or prehistoric site or object) is discovered during project activities, all operations in the immediate area of such a discovery shall be suspended until an evaluation of the discovery can be made by a

professional archaeologist to determine appropriate actions to prevent the loss of significant cultural or scientific values.

- Trees outside known or discovered cultural and/or paleontological resource site boundaries but within felling distance must be directionally felled away from those boundaries.

#### **D. Land Use Plan (LUP) Conformance**

The proposed action is in conformance with the following LUP:

- Record of Decision and Resource Management Plan for Northwestern and Coastal Oregon (USDI-BLM 2016).

The proposed action is in conformance with the applicable LUP because it is specifically provided for in the following management direction, listed by LUA.

##### District Designated Reserves (ROD/RMP, p. 56)

- Manage constructed facilities and infrastructure, such as seed orchards, roads, communication sites, quarries, buildings, and maintenance yards, as needed for the purposes for which the BLM constructed them.
- Maintain access to roads and facilities by removing hazard trees and blowdown. Such logs may be retained as down woody material, moved for placement in streams for fish habitat restoration, or removed through a commercial harvest or special forest products sale.

##### HLB – MITA (ROD/RMP, p. 63)

Implement timber salvage harvest after disturbance events to recover economic value and to minimize commercial loss or deterioration of damaged trees where the BLM determines that removal is economically viable.

- In timber salvage harvest units, retain at least 5 percent of pre-harvest stand basal area in live trees or snags in individual harvest units. Retain trees and snags in a variety of spatial patterns, including aggregated groups and individual trees.
- After salvage harvest, use natural or artificial regeneration or both to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre (including surviving trees) within 5 years of harvest.
- For areas without timber salvage harvest after disturbance events, use natural or artificial regeneration or both to reforest a mixture of species appropriate to the site to a stand-level average of at least 150 trees per acre (including surviving trees) within 10 years of the disturbance event, to the extent practicable given safety and operational constraints.

##### Late-Successional Reserve (ROD/RMP, p. 65)

- Do not conduct timber salvage, except when necessary to protect public safety, or to keep roads and other infrastructure clear of debris.
- Where trees are cut for yarding corridors, skid trails, road construction, maintenance, and improvement, retain cut trees in adjacent stands as down woody material, move cut trees

for placement in streams for fish habitat restoration, or sell trees, at the discretion of the BLM. For any trees that are both  $\geq 40$ " DBH and that the BLM identifies were established prior to 1850, retain cut trees in the adjacent stand as down woody material. The BLM identification of trees established prior to 1850 may be based on any variety of methods, such as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.

Riparian Reserve (ROD/RMP, p. 68)

- Prohibit timber salvage, except when necessary to protect public safety, or to keep roads and other infrastructure clear of debris.
- Where trees are cut for yarding corridors, skid trails, road construction, maintenance, and improvement in the Inner Zone or Middle Zone, retain cut trees in adjacent stands as down woody material or move cut trees for placement in streams for fish habitat restoration, at the discretion of the BLM. Where trees are cut for yarding corridors, skid trails, road construction, maintenance, and improvement in the Outer Zone or in Riparian Reserves associated with features other than streams, retain cut trees in adjacent stands as down woody material, move cut trees for placement in streams for fish habitat restoration, or sell trees, at the discretion of the BLM. For any trees that are both  $\geq 40$  inches DBH and that the BLM identifies were established prior to 1850, retain cut trees in the adjacent stand as down woody material. The BLM identification of trees established prior to 1850 may be based on any variety of methods, such as evaluation of bark, limb, trunk, or crown characteristics, or increment coring, at the discretion of the BLM.
- Maintain access to roads and facilities by removing hazard trees and blowdown from roads and facilities. Retain such logs as down woody material within adjacent stands or move for placement in streams for fish habitat restoration, unless removal of logs, including through commercial harvest, is necessary to maintain access to roads and facilities.

## **E. Compliance with NEPA**

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with BLM categorical exclusion 516 DM 11 at Section 11.9 C. (10) Forestry: (10), which authorizes salvage harvest of dead or dying trees on up to 3,000 acres, as follow:

*Salvaging dead and dying trees resulting from fire, insects, disease, drought, or other disturbances not to exceed 1,000 acres for disturbances of 3,000 acres or less.*

*For disturbances greater than 3,000 acres, harvesting shall not exceed 1/3 of a disturbance area but not to exceed 3,000 acres total harvest.*

*(a) Covered actions: (i) Cutting, yarding, and removal of dead or dying trees and live trees needed for landings, skid trails, and road clearing. Includes chipping/ grinding and removal of residual slash. (ii) Jackpot burning, pile burning, or underburning. (iii) Seeding or planting necessary to accelerate native species reestablishment.*

*(b) Such actions: (i) Shall not require more than 1 mile of permanent road construction to facilitate the covered actions. Permanent roads are routes intended to be part of the BLM's permanent transportation system. (ii) If a permanent road is constructed to facilitate the covered*

*actions, the segments shall conform to all applicable land use planning decisions for permanent road construction in the land use plan; and if travel management planning has been completed, the route specific designations related to the new segments shall be disclosed. (iii) May include temporary roads, which are defined as roads authorized by contract, permit, lease, other written authorization, or emergency operation not intended to be part of the BLM's permanent transportation system and not necessary for long-term resource management. Temporary roads shall be designed to standards appropriate for the intended uses, considering safety, cost of transportation, erosion control, potential sedimentation to streams, and impacts on land and resources. (iv) Shall require the treatment of temporary roads constructed or used so as to permit the reestablishment, by artificial or natural means, of vegetative cover on the roadway and areas where the vegetative cover was disturbed by the construction or use of the road, as necessary to minimize erosion from the disturbed area. Such treatment shall be designed to reestablish vegetative cover as soon as practicable, but at least within 10 years after the termination of the contract. (v) Shall require inclusion of project design features providing for protections of the following resources and resource uses consistent with the decisions in the applicable land use plan in the documentation of the categorical exclusion. If no land use plan decisions apply, documentation of the categorical exclusion shall identify how the following resources and resource uses are to be appropriately addressed: (1) Level of snag and downed wood creation/retention; (2) Specifications for erosion control features such as water bars, dispersed slash; (3) Criteria for minimizing or remedying soil compaction; (4) Types and extents of logging system constraints (e.g., seasonal, location, extent, etc.); (5) Extent and purpose of seasonal operating constraints or restrictions; (6) Criteria to limit spread of weeds; (7) Size of riparian buffers and/or riparian zone operating restrictions; (8) Operating constraints and restrictions for underburning or pile burning; (9) Revegetation standards for temporary roads; and (10) Limitations on road densities.*

*(c) For this CX, a dying tree is defined as a standing tree that has been severely damaged by forces such as fire, wind, ice, insects, or disease, and that in the judgement of an experienced forest professional or someone technically trained for the work, is likely to die within a few years. Examples include, but are not limited to: (i) Harvesting a portion of a stand damaged by a wind or ice event. (ii) Harvesting fire damaged trees.*

## **F. Extraordinary Circumstances Review**

The proposed action is appropriately categorically excluded from further NEPA review in this situation because there are no extraordinary circumstances potentially having effects that may significantly affect the environment. The HLB-MITA Salvage CX interdisciplinary team (IDT) has reviewed the proposed action to confirm that none of the extraordinary circumstances described in 43 CFR 46.215 apply. Where supporting information is relevant to the extraordinary circumstances review, it is included below, and incorporated by reference from the Specialist Reports for Wildlife; Soils; Fuels; Fisheries; Botany; Hydrology; Cultural Resources; and Recreation. These reports are available to the public by sending a request via email to [blm\\_or\\_no\\_upw\\_hlb\\_salvage@blm.gov](mailto:blm_or_no_upw_hlb_salvage@blm.gov).

In a separate action, the BLM will conduct Roadside Hazard Tree Removal for Emergency Stabilization and Rehabilitation (ESR) purposes (DOI-BLM-ORWA-N050-2021-0007-CX) along approximately 65 miles of BLM roads and easements within the boundaries of the Holiday Farm Fire through the authority provided by the CX 516 DM Appendix 1, Section 1.13,

Emergency Stabilization. In some locations, the Roadside Hazard Tree Removal and HLB-MITA salvage project areas are adjacent to one another. However, these projects have independent purposes and independent utility, and do not depend on the other; they are, therefore, not connected actions.

Extraordinary Circumstances	YES	NO
<p><b>1. Have significant impacts on public health or safety.</b></p> <p><u>Rationale:</u> Operations would follow Occupational Safety and Health Administration standards designed to prevent job-related illness or injuries. Operations would remove or fall standing trees that represent a hazard to workers and the public. The action would reduce future wildfire fuel loads, hazards to wildland firefighters, the public, and infrastructure from dead and dying trees. Relevant resource information identified by the IDT include landslides and wildfire fuels, described below.</p> <p><u>Landslides</u></p> <p>Landslides and debris flow risk, as evaluated by the USGS debris flow model in the aftermath of the Holiday Farm fire, shows that, while higher than pre-fire conditions, in the absence of management, there is a decreased risk of landslides and debris flow as the site recovers from the disturbance naturally (USGS undated - <a href="https://landslides.usgs.gov/hazards/postfire_debrisflow/">https://landslides.usgs.gov/hazards/postfire_debrisflow/</a>). This model is not designed to predict changes in debris flow risk if there is an additional disturbance such as a salvage sale. However, due to the relatively stable nature of the resident soils in the area paired with all appropriate BMPs and PDFs (identified in Section C) which limit the activities that may increase the risk of landslide and debris flow in the presence of salvage operations, there is no expected increased risk of a debris flow or landslide. (Soils Specialist Report, incorporated herein by reference.)</p> <p><u>Wildfire Fuels</u></p> <p>The action would reduce future wildfire fuel loads, hazards to wildland firefighters, the public, and infrastructure from dead and dying trees. New stands will develop in the high and moderate burn severity areas. The early successional and stand establishment stages would increase fire hazard (moderate-high) for up to 30 years within the fire area. These structural stages will develop regardless of salvage harvest or danger tree removal. Activity fuels following salvage and danger tree removal remaining within the stands would be lopped and scattered, chipped, or hand/machine piled and burned. Following activity fuels disposal treatments, a reduction in potential fire behavior would occur due to the reduction in surface fuel loading and change in horizontal and vertical fuel arrangement associated with activity fuels. (Fuels Specialist Report, incorporated herein by reference.)</p>		X

Extraordinary Circumstances	YES	NO
<p><b>2. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.</b></p> <p><u>Rationale:</u> The project would not have significant impacts on the subject resources and characteristics, as summarized below by resource type.</p> <p><u>Cultural Resources</u></p> <p>All previously and newly recorded cultural resource properties eligible or potentially eligible for listing in the National Register of Historic Places (NRHP) occurring within the project area, as determined by professional surveys, shall be protected in accordance with the PDFs described in Section C. These PDFs are designed to prevent ground disturbance and damage within the demarcated boundaries of known cultural sites, and provided they are followed, project actions would have no significant impacts on these properties. (Cultural Resources Specialist Report, incorporated herein by reference.)</p> <p><u>Parks, Recreation, Refuges, Wilderness, Wild and Scenic Rivers, National Landmarks</u></p> <p>There are no BLM RMA's (Recreation Management Areas), National Landmarks, designated Wilderness, Lands with Wilderness Characteristics, designated Wild and Scenic Rivers, or Suitable Wild and Scenic Rivers in the project area.</p> <p><u>Aquifers</u></p> <p>There are no sole or principal aquifers located within the footprint of this action. There are no groundwater Places of Use or Points of Diversion located within the footprint of this action. (Hydrology Specialist Report, incorporated herein by reference.)</p> <p><u>Prime Farmlands</u></p> <p>There are no designated prime farmlands within the project area. Therefore, there would be no significant effects to prime farmlands. (Soils Specialist Report, incorporated herein by reference.)</p> <p><u>Wetlands</u></p> <p>Activities would not occur on wetlands, and BMPs (e.g., R03, Modified R63, R73, R97, TH03, TH15) would be in place to prevent erosion and runoff into wetlands. Therefore, there would be no significant effects to wetlands. (Hydrology Specialist Report, incorporated herein by reference.)</p> <p><u>Floodplains</u></p> <p>Although most activities would not occur on floodplains, BMPs (e.g., R03, Modified R63, R73, R97, TH15) are in place to prevent damage should work be occur within 25 feet of a wetland. Floodplains would not be altered by the project because riparian</p>		X

Extraordinary Circumstances	YES	NO
<p>floodplains would be avoided. (Hydrology Specialist Report, incorporated herein by reference.)</p> <p><u>Wildlife (migratory birds)</u></p> <p>The Wildlife Specialist Report considered effects to habitat and migratory bird populations to determine if this Extraordinary Circumstance applied to the project. Habitat features for migratory birds (snags, down woody material) would be removed on approximately 5 percent of BLM-managed lands within the Holiday Farm fire perimeter. Habitat conditions on the remaining 95 percent of BLM-managed lands would be unaffected and some of these habitat features would remain in the proposed salvage units (designated snag retention, 40-inch DBH/1850 trees, non-merchantable snags/down woody material [DWM]). Therefore, these habitat features would remain abundant and well-distributed throughout the Holiday Farm fire area and there would be no significant effects to migratory birds at the population scale. (Wildlife Specialist Report, incorporated herein by reference). As such, this Extraordinary Circumstance does not apply to the HLB-MITA Salvage project.</p> <p><u>Areas of Critical Environment Concern (ACECs)</u></p> <p>There are three parcels of the Upper Willamette Valley Margin (UWVM) ACEC located adjacent to the proposed harvest units where road maintenance would occur. However, the proposed road maintenance work would not affect the relevant and important values of these sites since all work is being done on the existing road system. (Botany Specialist Report, incorporated herein by reference.)</p>		
<p><b>3. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2)(E)].</b></p> <p><u>Rationale:</u> The BLM interdisciplinary team of resource specialists reviewed the project and determined there are no highly controversial significant environmental effects or unique or unknown environmental risks. Salvaging dead or dying trees is a common BLM activity and experience has shown no highly uncertain, potentially significant, unique, or unknown risks.</p>		X
<p><b>4. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.</b></p> <p><u>Rationale:</u> Salvage harvest of dead and dying trees does not have highly uncertain and potentially significant environmental effects, nor does it involve unique or unknown environmental risks. The BLM has extensive experience conducting salvage operations, utilizing similar PDFs and BMPs, that have not resulted in significant environmental effects or involved unique or previously unknown risks.</p> <p><u>Soils</u></p> <p>As a background condition, no long-term loss in soil productivity would occur directly as a result of the Holiday Farm fire (BLM Interagency BAER Team 2020, p.86). Areas of high soil burn severity, which are most at risk of erosion in the presence of further disturbance, will not be further disturbed as a result of this proposed action with the</p>		X



Extraordinary Circumstances	YES	NO
<p>exception of approximately 1,500 feet of proposed permanent road, which will be incorporated into the permanent BLM road system. Because PDFs and BMPs applicable to stabilizing soils during road-building will be applied, and because the ROD/RMP (p. 83) provides for road building for timber harvest in the Harvest Land Base in its Management Direction, road building in the Harvest Land Base would not be an extraordinary circumstance. (Soils Specialist Report, incorporated herein by reference).</p>		
<p><b>5. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.</b></p> <p><u>Rationale:</u> Post-fire salvage and correlated actions authorized under this Categorical Exclusion have occurred on Oregon BLM lands for many years; this does not set a precedent for future action or represent a decision about future actions. Each project is designed based on current conditions on the ground, and independently of any other salvage project.</p>		X
<p><b>6. Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.</b></p> <p><u>Rationale:</u> In a separate action, the BLM will conduct Roadside Hazard Tree Removal for Emergency Stabilization and Rehabilitation (ESR) purposes (DOI-BLM-ORWA-N050-2021-0007-CX) along approximately 65 miles of BLM roads and easements within the boundaries of the Holiday Farm Fire through the authority provided by the CX 516 DM Appendix 1, Section 1.13, Emergency Stabilization. (see the <b>Background</b> section on page 1 of this document). In some locations, the Roadside Hazard Tree Removal activities would abut or overlap the proposed HLB-MITA Salvage units, and work may be conducted within a similar time frame. The IDT evaluated the concurrent nature of the two proposals and found that there would not be significant cumulative environmental effects, as summarized below for resources potentially affected.</p> <p><u>Soils</u></p> <p>Where the Roadside Hazard Tree Removal roadside clearing adjoins or overlaps the HLB-MITA harvest units, there is potential for equipment from both projects to work on the same areas of ground. Equipment operating in these areas would create cumulative soil impacts from the combination of these overlapping actions. However, equipment from the two different operations would only be allowed to run over the same ground on sites approved by a Soils Specialist. Approved sites would be evaluated prior to implementation of salvage activities to avoid areas in the Harvest Land Base that have been impacted by Hazard Tree removal activities, by either avoiding the same sites of entry from the Hazard Tree activities or, if these same points of entry are used, then by applying mitigation, such as decompacting the areas of detrimental soil compaction to avoid cumulative effects (per the PDFs in Section C of this document).</p>		X

Extraordinary Circumstances	YES	NO
<p>Because PDFs are in place, and all areas of overlap would be mitigated for by decompacting any soil with detrimental compaction, there would be no significant cumulative effects. (Soil Specialist Report, incorporated herein by reference.)</p> <p><u>Cultural</u></p> <p>Project PDFs are designed to prevent ground disturbance and damage within the demarcated boundaries of known cultural sites, and provided they are followed, project actions would have no significant impacts on these properties. (Cultural Resources Specialist Report, incorporated herein by reference.)</p> <p><u>Hydrology</u></p> <p>The combination of the two project actions would not have cumulatively significant environmental effects on water resources because both projects would renovate and improve roadway existing conditions through fuels reduction and emergency access resilience, pipe replacements, new drainage structures, additional rock, and erosion control for long-term durability and sediment reduction. There would be no increase in peak flow above current conditions. Although the burned landscape is likely to generate higher peak flows than the pre-fire landscape, primarily due to dramatically reduced evapotranspiration and, to a lesser extent, the creation of hydrophobic soils in high burn severity areas, the removal of dead and dying trees would not alter or contribute to any additional changes to peak flow because there would be no change in evapotranspiration (Hydrology Specialist Report, incorporated herein by reference.)</p> <p><u>Fisheries</u></p> <p>Effects on fish from this project were considered with other public projects as well as other projects occurring in the watershed. Although other projects would be additive to the amount of sediment transport to local streams, it would not rise to the level of significance due to most of the effects coming from log haul and roads (like all other timber sales). Because increases in sediment and turbidity are expected during the wet season, with higher stream flows, when turbidity in streams is generally already high from natural soil erosion processes (spaced apart in time and different areas), the effects to local fish populations would not be significant as the amount of sediment expected in local areas from log haul would be small and temporary. Furthermore, fish are dynamic, adaptive, and move throughout the stream systems (Bramblett, 2002) (Kahler T. H., 2001), (Hilderbrand R. a., 2000) to avoid short-term increases in sediment levels. (Fisheries Specialist Report, incorporated herein by reference.)</p> <p><u>Wildlife</u></p> <p>The cumulative effects of the HLB-MITA salvage, when considered with the effects from the Roadside Hazard Tree Removal project, would not be significant because:</p> <ul style="list-style-type: none"> <li>• All project activities would be seasonally restricted by Project Design Features to avoid noise disruption to northern spotted owls (NSOs).</li> <li>• The area affected by both projects is not capable of supporting spotted owl landscape dispersal (Proposed RMP/FEIS 2016, pp. 941-947), and the</li> </ul>		

Extraordinary Circumstances	YES	NO
<p>proposed salvage and hazard tree removal projects would not change this condition.</p> <ul style="list-style-type: none"> <li>• The projects would not significantly affect the future development of spotted owl habitat. Elements of spotted owl habitat would be removed, but snags and down woody material would remain in the treated areas (shorter snags and down woody material that are not hazards, 40-inch/1850 trees, down woody material retention in Riparian Reserves, snag retention in salvage units, non-merchantable down woody material). Therefore, the combined effects of both projects would not change the trajectory of spotted owl habitat development in affected stands; unsuitable and PFF habitat would develop into dispersal-only habitat in approximately 40 years and into suitable habitat in approximately 60 years.</li> <li>• There would be no cumulative effects to the single NSO site where habitat conditions could support occupation by spotted owls, Johnson Creek. The MITA Salvage project would affect only unsuitable habitat within this site and therefore would have no effect on the site’s ability to support spotted owls.</li> <li>• Effects to migratory bird populations would not be significant in the area affected by both projects. Habitat features for migratory birds (snags, down woody material) would be removed on approximately 22 percent of the 8000-acre cumulative effects area. Habitat conditions on the remaining 78 percent would be unaffected, and snag and down woody material habitat features would remain in the treated areas (i.e., shorter snags and down woody material that are not hazards, 40-inch/1850 trees, down woody material retained in Riparian Reserves, snag retention in salvage units, non-merchantable down woody material). Therefore, these habitat features would remain abundant and well-distributed within the cumulative effects area, and there would be no measurable effect to migratory bird populations that use them.(Wildlife Specialist Report, incorporated herein by reference.)</li> </ul> <p>This Extraordinary Circumstance therefore does not apply to wildlife for the HLB-MITA salvage project.</p> <p><u>Fuels</u></p> <p>Implementation of both the roadside hazard tree removal project and the proposed HLB-MITA salvage project would not contribute to cumulatively significant environmental effects to forest structural stages and related fire hazard categories. In high and moderate burn severity areas, the fire killed all or most of the existing stands (i.e., caused stand-replacing fire) and over the future years, new stands will develop. In other words, the fire caused the forest structure to transition back into an early successional stage. The early successional and stand establishment stages would represent a moderate to high fire hazard for up to 30 years within the fire area. These structural stages will develop regardless of salvage harvest or danger tree removal.</p>		

Extraordinary Circumstances	YES	NO
<p>While the proposed actions would not change the post fire structural stage, the removal of hazard trees, fire killed, and fire damaged trees would reduce future surface fuel loads, and it would reduce safety hazards to wildland firefighters, the public, and infrastructure from dead and dying trees. Danger tree removal and salvage harvest would move stands from timber litter/timber understory to a slash-blowdown fuel model immediately following harvest. Immediately following forest management activities and prior to activity fuels disposal, fire behavior potential would increase from the current condition due to increased surface fuels created by logging. Whole tree yarding would occur to minimize residual surface fuel loading within treatment areas. Activity fuels remaining within the stands following salvage and hazard tree removal would be lopped and scattered, chipped, or hand/machine piled and burned. Following activity fuels disposal treatments, a reduction in potential fire behavior would occur due to the reduction in surface fuel loading and change in horizontal and vertical fuel arrangement associated with activity fuels. (Fuels Specialist Report, incorporated herein by reference.)</p> <p><u>Botany</u></p> <p><b>Special status botanical and oak species:</b> cumulative effects are not expected as project design features would prevent most or all effects to special status plants on both BLM projects</p> <p><b>Invasive species:</b> cumulative effects may occur, given the spread of weeds among multiple adjacent projects, but these effects will be reduced to insignificant amounts since the BLM will apply robust and adequate control measures such that weeds spread and introduction is insignificant.</p> <p><b>ACECs:</b> The HLB-MITA salvage project uses the same road systems as the Roadside Hazard Tree removal project. Since there are no designated or nominated ACECs within the HLB-MITA harvest units, timber harvest would not affect the ACECs. The proposed road maintenance work within the three UWVM ACEC parcels will not result in a cumulative effect to the relevant and important values of these sites because the nature of the road maintenance work is such that it only needs to happen once along the same roads for both of these projects. (Botany Specialist Report, incorporated herein by reference.)</p>		
<p><b>7. Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office.</b></p> <p><u>Rationale:</u> All previously and newly recorded cultural resource properties eligible or potentially eligible for listing in the NRHP occurring within the project area, as determined by professional surveys, would be protected in accordance with the PDFs described in Section C. These PDFs are designed to prevent ground disturbance and damage within the demarcated boundaries of known cultural sites, and provided they are followed, project actions would have no impacts on these properties. (Cultural Resources Specialist Report, incorporated herein by reference.)</p>		X

Extraordinary Circumstances	YES	NO
<p data-bbox="215 235 1317 342"><b>8. Have significant impacts on species listed, or proposed to be listed, as an Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species.</b></p> <p data-bbox="261 386 1347 493"><u>Rationale:</u> See summaries for wildlife, fish, and plant species below. Listed species refer to species listed as threatened or endangered under the Endangered Species Act (ESA).</p> <p data-bbox="261 514 370 548"><u>Wildlife</u></p> <p data-bbox="261 569 1369 940">The northern spotted owl is the only terrestrial species listed under the Endangered Species Act that could be affected by the HLB-MITA Salvage project. The BLM completed ESA Section 7 consultation for salvage on the NW Oregon District with the US Fish and Wildlife Service in 2019/2020 (Interagency Level 1 Team, 2019). The BLM is coordinating with the Service to ensure that the effects of the HLB-MITA Salvage project are within the scope of those anticipated during consultation, and to ensure that the project would not cause ‘take’ of northern spotted owls, as required by the 2016 RMP (ROD/RMP, p. 100). If this effort determines that changes in the HLB-MITA Salvage project design are necessary, the BLM would respond accordingly and if necessary, conduct further NEPA analysis.</p> <p data-bbox="261 961 1347 1068">The proposed action would not have significant effects on northern spotted owl or its designated Critical Habitat because (Wildlife Resources Specialist Report, incorporated herein by reference):</p> <ul data-bbox="310 1092 1357 1852" style="list-style-type: none"> <li>• Project activities would be seasonally restricted as described in the Project Design Features section to avoid noise disruption to northern spotted owls.</li> <li>• The project would have no effect to the single spotted owl site (Johnson Creek) where habitat conditions could support occupation by spotted owls. The BLM has conducted protocol surveys and determined that this site is unoccupied by spotted owls and will continue to conduct surveys during project implementation. In this site, the BLM would salvage only unsuitable spotted owl habitat that does not contribute to spotted owl use.</li> <li>• The BLM’s PRMP/FEIS determined that the project area is not capable of supporting spotted owl landscape dispersal (Bureau of Land Management, 2016, pp. 941-947) and the proposed salvage would not change this condition.</li> <li>• Salvage would not significantly affect the future development of spotted owl habitat. Elements of spotted owl habitat (snags, down woody material) would be removed, but these habitat features would remain in the treated areas (snag retention, 40-inch/1850 trees, non-merchantable snags/DWM) and salvage would not change the trajectory of spotted owl habitat development in the proposed units. As with typical BLM regeneration harvest, salvaged areas would develop into dispersal-only habitat in approximately 40 years and into suitable habitat in approximately 60 years.</li> </ul>		X

Extraordinary Circumstances	YES	NO
<ul style="list-style-type: none"> <li>• The project would not occur in or affect northern spotted owl Critical Habitat.</li> </ul> <p>For these reasons, Extraordinary Circumstance 8 would not apply to the HLB-MITA Salvage project for ESA-listed wildlife species.</p> <p><u>Fisheries</u></p> <p>Upper Willamette River Spring Chinook and Bull Trout may be affected by increases in sediment pulses from log haul in proximity (5-10 feet from Gate Creek) to area streams if they are present. However, these impacts would be localized and occur during periods of high water. Due to the localized nature of high turbidities and sediment transport, the effects to the fish populations in the area would be localized as well, limiting the effects to small parts of the overall Upper Willamette Spring Chinook salmon Evolutionary Significant Unit (ESU) or Bull Trout Distinctive Population Segment (DPS). There would therefore be no significant impacts on listed species or their designated Critical Habitat. (Fisheries Specialist Report, incorporated herein by reference.)</p> <p>If conditions change, the BLM would reevaluate the need for further NEPA analysis and documentation, and would coordinate with the National Marine Fisheries Service (NMFS). The BLM completed a programmatic forest management consultation with the NMFS under Section 7 of the ESA (16 U.S.C. 1536 (a)(2) and (a)(4)), as amended. The Regional Administrator for NMFS signed the Programmatic Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the BLM’s Forest Management Program for Western Oregon (WCR-2017-7574) on March 9, 2018 (USDC-NMFS 2018b). The BLM would follow the review and verification process for timber sale activities, per the Biological Opinion, including submitting project notifications to NMFS. The BLM is required to consult on Federal actions that may affect listed species.</p> <p><u>Botany</u></p> <p>There are no known sites of Bureau sensitive or federally listed species present within the project area. The project area units were surveyed (67%) or will be surveyed for special status (Endangered, Threatened, or Bureau Sensitive) vascular plants. Surveys for special status lichens and bryophytes are not planned as these taxa would generally be consumed by fire that kills associated conifers. However, any incidental sites found during vascular surveys would be recorded. No known sites occur within units of the HLB-MITA salvage sale. Any sites found in subsequent botany surveys will be managed for site persistence with site specific measures dependent on the species located. No significant effects to special status plants, lichens or bryophytes are expected.</p> <p>If any special status botanical, or fungal species are found within the project areas, the field office botanist would be notified. Site management of any bureau special status species, found as a result of incidental findings, would be accomplished in accordance with BLM Manual 6840 (12/12/2008, IM-2009-039). (Botany Specialist Report, incorporated herein by reference.)</p>		

Extraordinary Circumstances	YES	NO
<p>ACECs: There are no designated or nominated ACEC's within the harvest units. The proposed road maintenance work within the three UWVM ACEC parcels will not affect the relevant and important values of these sites since all work is being done on the existing road system. (Botany Specialist Report, incorporated herein by reference.)</p>		
<p><b>9. Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.</b></p> <p><u>Rationale:</u> The Proposed Action would not violate any Federal, State, local and tribal laws. The proposed action conforms to the direction given for the management of public lands in the ROD/RMP, which complies with all applicable Federal, State, local and tribal laws. Therefore, actions implemented in conformance with the ROD/RMP would not violate any of these laws or requirements.</p>		X
<p><b>10. Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 2898).</b></p> <p><u>Rationale:</u> The action would not have a disproportionately high or adverse effect on low or minority populations. The project area is within the Harvest Land Base land use allocation, which the BLM actively manages for sustained-yield timber production.</p>		X
<p><b>11. Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).</b></p> <p><u>Rationale:</u> The BLM archaeologists reviewed and surveyed the project area. No sites of sacred, religious, or ceremonial value have been identified in the project area and thus no such sites would be affected. In addition, this project would not limit access to and/or ceremonial use of Indian sacred sites by Indian religious practitioners. (Cultural Resources Specialist Report, incorporated herein by reference.)</p>		X
<p><b>12. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).</b></p> <p><u>Rationale:</u> There is an existing high risk of weed introduction/spread from the wildfire itself due to existing weed populations occurring along the roadsides. Project work such as ground disturbing equipment and harvest operations creates added risk of weed establishment and spread, but the BLM is taking action to prevent those impacts by ensuring that equipment is cleaned prior to entry, disturbed ground is seeded with native species, weed treatments are implemented and monitoring occurs for at least three years after project implementation to address species that may establish after work is completed. (Botany Specialist Report, incorporated herein by reference.)</p>		X

## G. Literature Cited

BLM Interagency BAER Team. 2020. *2020 Holiday Farm Fire Burned Area Emergency Response Plan*. Upper Willamette Field Office – Northwest Oregon District.

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Kahler, T. H., Roni, P., & Quinn, T. P. (2001). Summer movement and growth of juvenile anadromous salmonids in small western Washington streams. *Canadian Journal of Fisheries and Aquatic Sciences*, 58(10), 1947–1956

Wall, S.J. 2020. Runoff-initiated post-fire debris flow, Western Cascades, Oregon. *Landslides* 17(7): 1649-1661.

## H. List of Preparers

Name and Role	Date	Name and Role	Date
Rob Titcomb, Silviculturist		Jessica Celis, Botany	
Chris Langdon, Wildlife		Tim Argo, Silviculturist	
Dale Gough, GIS		Linda Wright, NEPA Coordinator	
Brian Barr, Hydrology		Jessica Gallimore, Fuels - Slash	
David Kennedy, Hydrology		Maija Corliss, Fire	
David G. Sanders, Recreation		Jennifer Puttere, Soils	
Chad Conklin, Engineering		Terry Godin, Archaeology	
Steve Liebhardt, Fisheries		Damien Hawley-Jones, Hydrology	
David Moore, Visual Resources		Cary Swain, Forestry	
Matt Buss, Forestry			
Doug Fuller, Project Lead			

## H. Signature

Signature of the Responsible Official:

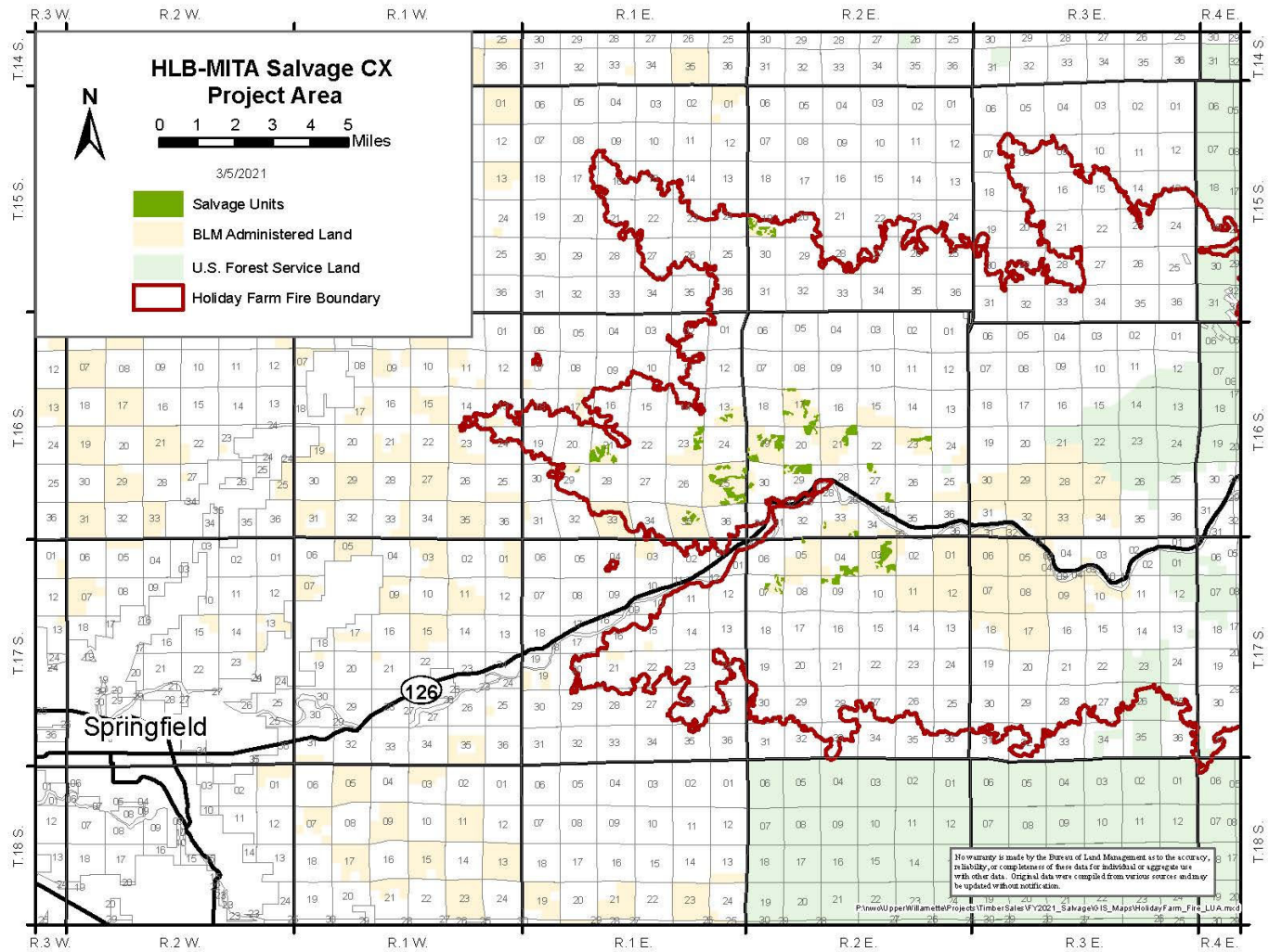
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Rebecca Brooke  
Upper Willamette Field Manager



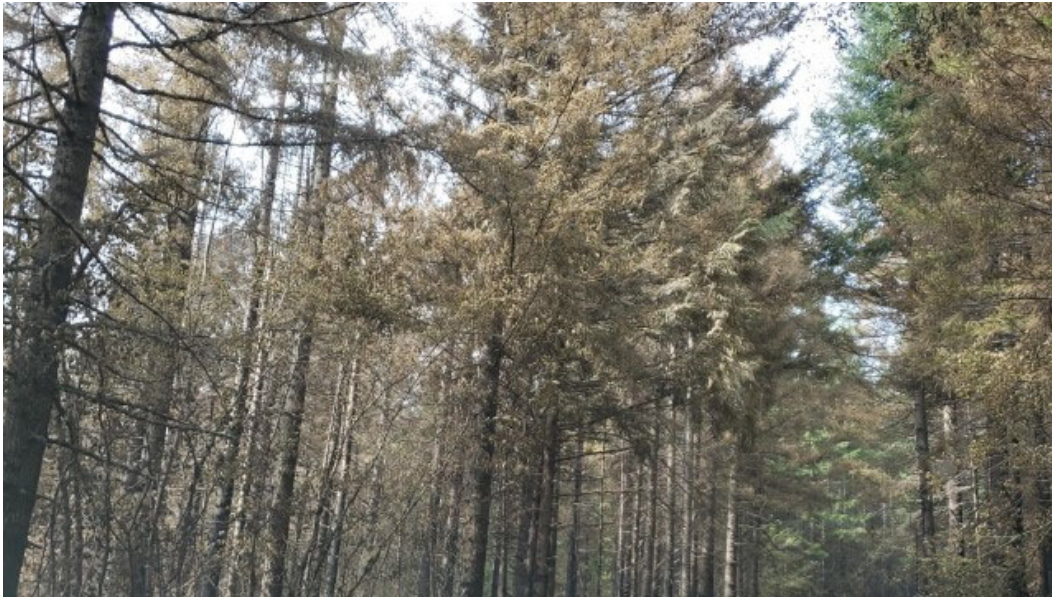
# Appendix A: Maps

## Exhibit 1: Project Area



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## Appendix B: Photographs



**Photograph 1:** A moderate burn area where some green needles remain but the majority of the stand is dead or dying.



**Photograph 2:** Severe burn area where all conifers are dead.



**Photograph 3:** Photo from Hood et al. 2020 (p. 15) showing *deep char on Douglas-fir* where outer bark species characteristics are lost (left arrow) and completely burned away to expose wood (right arrow).