UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
Portland, OR 97232

Refer to NMFS No:
WCR-2014-837

February 9, 2015

Lisa A. Northrup
Forest Supervisor
U.S. Forest Service
Mt. Hood National Forest
16400 Champion Way
Sandy, Oregon 97055-7248

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Lava Timber Sale, Upper West Fork Hood River (6th Field HUC: 170701050701), Upper Middle Fork Hood River (6th Field HUC: 170701050504), and Lower Middle Fork Hood River (170701050505) Watersheds, Hood River County, Oregon

Dear Ms. Northrup:

On May 7, NOAA's National Marine Fisheries Service (NMFS) received a letter with your request for a written concurrence that the Lava Timber Sale proposed by the U.S. Forest Service (USFS), under the authority of the Organic Administration Act (16 USC 477) and section 14 of the National Forest Management Act (16 USC 1600-1614), is not likely to adversely affect (NLAA) Lower Columbia River (LCR) Chinook salmon (*Oncorhynchus tshawytscha*), LCR coho salmon (*O. kisutch*), and LCR steelhead (*O. mykiss*), species listed as threatened under the Endangered Species Act (ESA), or critical habitat designated or proposed for these species. This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures. The USFS determined that the proposed action would not adversely affect EFH. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. In this case, NMFS concluded the action will not adversely affect EFH. Thus, consultation under the MSA is not required for this action.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). A complete record of this consultation is on file at Portland, Oregon

Proposed Action and Action Area

The USFS proposes to carry out the Lava timber sale on the Mt. Hood National Forest. The Lava timber sale is approximately 18 miles southwest of Hood River, Oregon in Hood River County (Figure 1). The proposed project will occur in the Upper West Fork Hood River (6th Field HUC: 170701050701), Upper Middle Fork Hood River (6th Field HUC: 170701050504), and Lower Middle Fork Hood River (6th Field HUC: 170701050505) watersheds. Estimated timing for project implementation is between 2015 and 2018 and harvests will take place on various land allocations as described in the Northwest Forest Plan (NWFP), including matrix and riparian reserves (RRs).[1] The biological assessment (BA) states that the site potential tree height (SPTH) in the project area is 140 or 160 feet.

The proposed action includes the following project elements which are summarized below: (1) Timber felling; (2) timber yarding; (3) timber and rock hauling; (4) road and landing work; and (5) fuels treatment.

Timber Harvest

The USFS proposes to allow the purchaser to commercially thin 1,781 acres. The majority of the units are 25-75 year-old stands; however, three units are 100-130 year-old stand. Units will range in size of 11-112 acres. Pre-harvest tree per densities are 60-640 trees per acre (TPA), and post-harvest tree densities will be 60-280 TPA. Pre-harvest canopy covers are 50-80%, and post-harvest canopy covers will be 40-65%.

The USFS proposes to create skips and gaps. Skips are areas where no trees would be removed and gaps are areas where most or all of the trees would be removed. Gaps will be 1-5 acres in size and will be at least 1 SPTH (140-160 feet) from listed fish habitat[2] (LFH), 30 feet from non-LFH intermittent streams, and 60 feet from non-LFH perennial streams.

Four units are adjacent to LFH. Other unit distances from LFH are 150 feet-5.8 miles. Perennial streams will have a minimum 60-foot no-cut buffer. Intermittent streams will have a minimum 30-foot no-cut buffer. Twelve units will have no-cut buffers greater than the minimums described above due to topographical slope breaks and proximity to LFH (Table 1).

[1] The greater of: two site-potential trees or 300 feet slope distance for fish-bearing streams, one site-potential tree or 150 feet for perennial non fish-bearing streams, and one site-potential tree or 100 feet for seasonal or intermittent streams.

[2] Listed fish habitat (LFH) is defined as any stream reach potentially occupied by an ESA-listed fish species or any stream reach designated as critical habitat.

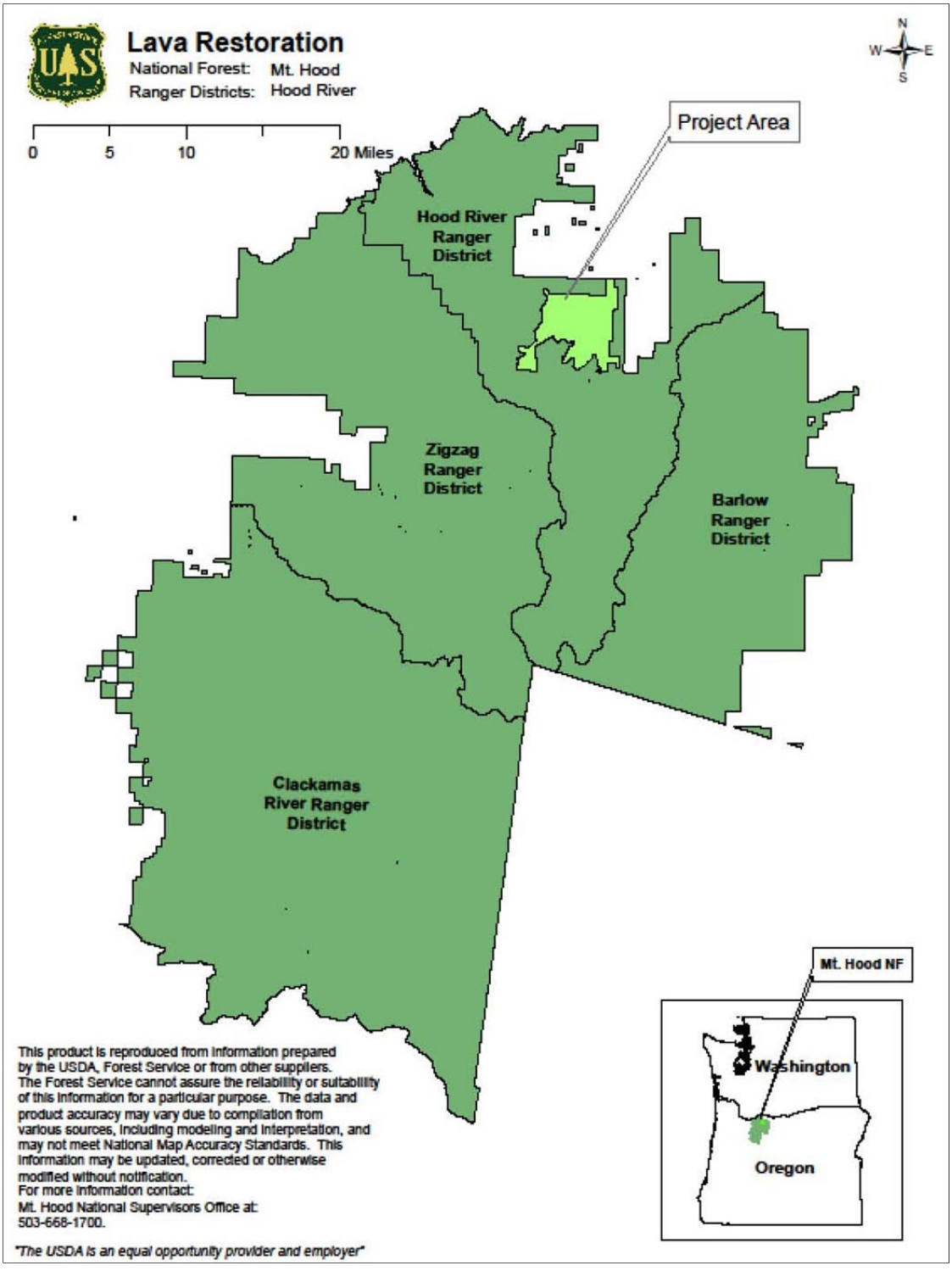

Figure 1. Lava timber sale vicinity map.

Table 1. No-cut buffers greater than the minimum 30- and 60-foot no-cut buffers.

Unit	No-Cut Buffer Perennial Streams (ft)	Distance to LFH (ft)	No-Cut Buffer Intermittent Streams (ft)	Distance to LFH (ft)
1	126	Adjacent	30	140
3	90	Adjacent	50	100
4	90	Adjacent	50	100
5	N/A	N/A	40	3,170
6	N/A	N/A	40	3,200
12	75	15,630	30	17,630
15	135 (Tony Creek)	20,050	30	20,050
	60	20,200		
16	N/A	N/A	50	24,450
18	100	24,250	30	24,500
21	60	26,400	50	26,500
			30	26,600
31	150	4,225	30	4,375
48	135	Adjacent	100	150
	60	150		

All units were field reviewed by the hydrologist and soil scientist for slope stability. There were no signs of shallow or deep-seated slope instability in the project area.

Timber Yarding

The proposed timber yarding systems will include ground-based (1,068 acres), skyline (405acres), and helicopter (136 acres) methods.

The majority of ground-based yarding will occur on slopes less than 30%; however, there are five units where ground based yarding will occur on slopes greater than 30%. On these steeper slopes, trees would be felled directionally so that the tops extend out over the slope break, allowing the trees to be skidded without operating the equipment within the steeper area. No ground based machines will be permitted to cross any streams, nor will skid trails be used within 100 feet of streams. Ground-based yarding will generally occur during the dry season (generally June 1-October 31), or during the winter months when soils are sufficiently frozen to support equipment. Yarding will be suspended before rainfall or precipitation results in off-site movement of sediment into drainage courses.

Skyline yarding will occur on slopes with sufficient slope (>30%) to allow at least one end of the log to be suspended above the ground. Full suspension will occur over stream channels. There will not be any seasonal restrictions on skyline yarding; however, operations will only occur when conditions are relatively dry. Skyline yarding will be suspended if rainfall or precipitation results in pooling of water on landings.

Helicopter yarding will occur on slopes greater than 30%. Helicopter yarding will also be used where access to system roads is limited. There will not be any seasonal restrictions on helicopter yarding; however, operations will only occur when conditions are relatively dry.

Road Work

The proposed road work consists of road and landing construction; road maintenance; and road closure, storm-proofing, and road decommissioning. Road work will generally occur June 1-October 31, but is not limited to this timeframe depending on weather and soil conditions. Road work outside of the normal operating season may occur if the 24 hour and 2 week precipitation amounts are less than or equal to amounts found during the normal operating season at the weather station nearest the proposed activity.

Road and Landing Construction. The USFS proposes to construct 14.7 miles of native-surfaced[3], temporary roads. Of this, there will be 1 mile of new, temporary roads, 11.2 miles of reconstructed roads on existing roads, and 2.5 miles of reconstructed roads on decommissioned roads. Road reconstruction will include road clearing, adding fill material, geotextile reinforcement, and adding aggregate to the surface. There will not be any new road construction within RRs; however 2,976 feet of reconstructed roads will occur within RRs. All temporary roads will have drainage features that will route water to the forest floor. The reconstructed roads will cross four streams; three over intermittent streams, and one over a perennial spring. The USFS will install culverts on the intermittent streams. A culvert currently exists on the perennial spring. The intermittent stream crossings are 3.4-4.6 miles upstream of LFH, and the perennial spring crossing is 2 miles upstream of LFH. All culverts will be removed upon completion of the timber sale.

The USFS proposes to replace one culvert on a tributary to Tony Creek. The culvert is 4 miles upstream of LFH. The culverts will be sized to accommodate the 100-year flood event. All work required in stream channels will be limited to the Oregon Department of Fish and Wildlife (ODFW) in-water work window (July 15-August 15 for the Middle Fork Hood River and tributaries, and the West Fork Hood river and tributaries.

The USFS proposes to construct approximately 342 landings (50 acres). Many landings will be located on the existing road system, and will require minor reconstruction. Each landing will be 0.1-0.5 acres in size. New landings will not be constructed in RRs. The USFS proposes to use existing landings, where feasible. The use of existing landings in the RRs would be allowed if the use would not increase erosion and sedimentation. In addition, existing landings within 1 SPTH will not be used unless the slope is vegetated and less than 30%.

Road Maintenance and Renovation. The USFS proposes to maintain approximately 60 miles of existing roads prior to hauling. Road maintenance will include surface blading, danger tree felling, roadside brushing, spot-rock surfacing, slide repair, and ditch and culvert cleaning. Material that is removed from ditch lines, culverts, and blading will be placed below the road prism outside riparian protection buffers.

Road maintenance will also include water application to a road bed. The USFS proposes to withdrawal water streams. Water drafting will not reduce flow in LFH by more than 10% of the

[3] Native surfaces roads are those cleared of vegetation and the top surfaces of soil. These are often referred to as natural surface roads. No additional rock or aggregate surfacing is added.

flow, and will not reduce the flow in other streams by more than 50%. All pipe intakes will be screened to prevent fish entrainment.

Road Decommissioning. All temporary roads and reconstructed roads will be fully decommissioned following timber harvest. Decommissioning will include entrance berms, water bars, culvert removal, decompaction, and placement of debris at the entrance and along the first portion of the road.

Timber and Rock Hauling

The USFS proposes to haul timber and rock from this sale on 16.6 miles of native-surfaced roads, 22 miles of aggregate-surfaced roads, and 28 miles of paved roads. There are five crossings over LFH, all of which are paved. The haul route crosses other streams that are between 1,056 feet and 2.5 miles upstream of LFH, including paved and aggregate-surfaced crossings. Approximately 2,012 truckloads will be hauled on roads for the timber sale during a 3-year period. Of this, 1,328 truckloads will be on paved roads, 604 truckloads will be on aggregate-surfaced roads, and 80 truckloads will be on native-surfaced roads.

All but one aggregate-surfaced and one native-surfaced haul routes will have wet weather hauling restrictions (November 1-May 31). These haul routes do not cross any streams and do not have any hydrologic connectivity to streams. The USFS will install sediment traps where there is a potential for sediment inputs to streams Sediment traps will be inspected weekly during the wet season, and entrained soils will be removed when the traps have filled to ¾ capacity. Sediment will be disposed in a stable site that does not have hydrologic connectivity to streams. The USFS will inspect haul routes at least once a week to evaluate the road surface condition, determine if drainage maintenance is required, and to look for sources of erosion and sediment delivery to streams. Timber and rock hauling will be stopped immediately, even in the dry season, if road use is causing rutting of the road surface, ponding of water on the road, failure of any drainage structure, or any other action occurs which increases the sediment delivery to a stream. Roads will be restored or repaired before timber transport resumes.

Fuels Treatment

The USFS proposes slash piling and burning. Slash will be piled with machines and will be located on skid trails and landings. Material in the 3-99-inch size class will be left on site. Pile burning will occur during high moisture conditions in the fall and winter when conditions are favorable for controlling the flame.

Project Design Criteria

The USFS proposes to implement the following project design criteria (PDCs), and are verbatim from the BA (USDA 2012):

Timber Felling.

1. Gap size and distribution (i.e. location and number) will vary depending on stand specific conditions. Individual gaps will range in size from 1 to 5-acres.

2. Within RRs for perennial streams, gaps will only be allowed within 1 SPTH if the stream is glacially or spring fed or the gap is located on the north side of the stream. If these conditions are met, gaps could be created, but they will be limited to no greater than 3 acres in size and will be located outside protection buffers outlined in the PDCs. If gaps are created along intermittent streams they will be outside the protection buffer.

3. No gaps will be located in RRs within skyline units.

4. Protection buffers for perennial streams and wetlands will be a minimum of 60 feet and a minimum of 30 feet for intermittent streams, except for units outlined in in Table 1. Buffers are measured from the edge of the bankfull channel on both sides of the stream (or wetted area in the case of a pond or wetland). Buffers will be expanded to include slope breaks where appropriate.

5. If a tree located outside a protection buffer lands wholly or partially within the protection buffer when felled, none of the tree located within the protection buffer will be removed.

6. If a gap is placed in a RR directly adjacent to a stream designated as listed fish habitat (Bear Creek, Tony Creek, or the Middle Fork Hood River) the gap shall be located 1 SPTH or further from the LFH stream regardless of the protection buffer width. This pertains to the above streams in units 1, 3, 4, 12, 13, 14, 15, 18, 21, and 48.

Timber Yarding.

1. No ground-based mechanized equipment, including but not limited to tractors or skidders will operate within 100 feet of streams, seeps, springs or wetlands while conducting logging operations.

2. Heavy equipment, such as skidders, dozers, and feller-bunchers, operation will not be allowed outside the normal operating season (generally June 1 – October 31) within RRs.

3. Ground-based harvest systems shall not be used on slopes greater than 30 % to avoid detrimental soil and/or watershed impacts.

4. If a proposal to implement winter logging is presented, the following shall be considered by the line officer if the ground is not frozen hard enough and/or insufficient snow depth to support the weight and movement of machinery in moist to wet soil conditions:

    a. The proposal shall be considered on a unit-by-unit basis using soil types in the area since some soils may be more prone to detrimental damage than others.
    b. Because the margin of difference between not detrimental and detrimental soil

damage can be so slim under moist to wet soil conditions, monitoring of the logging activity may need to occur daily, or more, as agreed to by sale administration and soil scientist.

c. Equipment normally expected to traverse the forest, such as feller bunchers, track mounted shears, etc., shall be restricted to skid trails once soil moistures are such that even one or two trips are causing detrimental soil damage out in the unit (i.e. not on landings or skid trails).
d. Due to higher pounds per square inch than track mounted equipment, no rubber tired skidders shall be used even on skid trails once soils become fully saturated (approach their liquid limit).

Road Work.

1. Temporary roads and landings located on or intersecting National Forest System roads that are asphalt or bituminous surfaced will have 3-inch minus or finer dense graded aggregate placed at the approach to prevent surface damage. The purchaser should purchase the material from a commercial source and place the material so that the approach flares are wide enough to accommodate the off-tracking of vehicles entering onto or leaving the site.

2. Temporary roads and landings will not obstruct ditch lines. Temporary roads and landings that obstruct ditch lines or drainage ways shall be improved by the purchaser, prior to commencing operations, with french drains, drivable dips or materials that provide effective drainage and prevent erosion.

3. Temporary roads will be obliterated upon the completion of use. Temporary roads and landings on temporary roads shall be sub-soiled or scarified as necessary. Culverts shall be removed as appropriate and cross-drain ditches or water bars shall be installed as needed. Disturbed ground shall be seeded and mulched and available logging slash, logs, or root wads shall be placed across the road or landing surface. Post-harvest motorized access will be prevented by construction of a berm and/or placement of available large boulders.

4. Pit run rock may be used when necessary to reduce erosion, puddling, rutting, and compaction on temporary roads and landings. To provide an efficient substrate for vegetative growth and water infiltration, rock will be removed or incorporated into the soil by ripping or scarifying the roadbed following harvest activities.

5. Unsuitable excavation resulting from ditch cleaning and other operations will be disposed of only at USFS approved sites outside riparian protection buffers. Material disposed of shall be spread evenly over an appropriate area in non-conical shaped piles with a maximum layer thickness of 3 feet. All disposals shall be seeded and mulched at the completion of operations.

6. Existing vegetation in ditch lines hydrologically connected to streams (as defined in NWFP) must not be removed unless an effective sediment trap is installed and

maintained until vegetation is reestablished. Vegetation and slough removal will be immediately mitigated with sediment control features such as check dams constructed of bio-bags, straw bales, or other biodegradable materials.

7. Scheduled soil disturbing road maintenance or reconstruction shall occur during the normal operating season (generally June 1 – October 31), unless a waiver is obtained.

8. Follow the appropriate ODFW guidelines for timing of in-water work (in these watersheds the in-water work window is July 15 – August 15). Exceptions to the ODFW in-water work windows must be requested by the Forest or its contractors, and subsequently approved by ODFW, NMFS), U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (Corps), and Oregon Division of State Lands (DSL).

9. Locate new landings outside of RRs. Use of existing landing locations within RRs may be allowed if erosion potential and sedimentation concerns can be sufficiently mitigated as determined by a qualified soil scientist or hydrologist. Existing landings within 1 SPTH from streams, seeps, springs or wetlands will not be used unless the slope between the landing and surface water is 30% or less and there is an intact vegetated buffer between the landing and surface water.

10. Refuel mechanized equipment at least 150 feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback to prevent direct delivery of contaminants into water. Parking of mechanized equipment overnight or for longer periods of time shall be at least 150 feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback. Absorbent pads will be required under all stationary equipment and fuel storage containers. A Spill Prevention Control and Containment Plan (SPCCP) shall be prepared by the contractor as required under EPA requirements (40 CFR 112).

11. Use erosion control measures (e.g., silt fence, sediment traps) where road maintenance or reconstruction may result in delivery of sediment to adjacent surface water.

12. Install sediment and stormwater controls (e.g., ditching) prior to initiating surface disturbing activities to the extent practicable.

13. Install suitable stormwater and erosion control measures (e.g., ditching, seeding, mulching) to stabilize disturbed areas and waterways on incomplete projects prior to seasonal shutdown of operations, or when severe storm or cumulative precipitation events that could result in sediment mobilization to streams are expected.

14. The timber sale administrator or qualified specialist will monitor disturbed areas, as needed, to verify that erosion and stormwater controls are implemented and functioning as designed and are suitably maintained.

15. Maintain erosion and stormwater controls as necessary to ensure proper and effective functioning.

16. No water would be withdrawn from any occupied LFH stream except in an emergency (e.g. wildfire) situation. Limit water withdrawals for road maintenance or other purposes in unoccupied LFH and within 1,500 feet of occupied or unoccupied LFH to 10 % or less of stream flow at the point of withdrawal (visually estimated). In non - LFH streams greater than 1,500 feet from LFH limit withdrawal by 50 % or less of the stream flow (visually estimated). Regardless of water withdrawal location, use of screen material with either of the following maximum openings is required: 1.75 mm opening for woven wire or 3/32 inch opening for perforated plate.

17. All trucks used for refueling shall carry a hazardous material recovery kit, including absorbent pads to be used during refueling if that occurs in the project area. Any contaminated soil, vegetation or debris must be removed from National Forest System Lands and disposed of in accordance with Oregon State laws.

18. All skid trails will be rehabilitated immediately after harvest activities are completed. Landings and temporary roads normally will have erosion control measures installed following vegetation or reforestation treatments. If those treatments are anticipated to be delayed beyond the current field season, then temporary effective closure of roads will occur to prevent unauthorized use.

19. Ensure that an experienced professional fisheries biologist, hydrologist or technician is involved in the design of road decommissioning and/or culvert removal/replacement projects. The experience shall be commensurate with technical requirements of a project.

20. Follow the appropriate ODFW guidelines for timing of in-water work (July 15 to August 15). Exceptions to the ODFW in-water work windows must be requested by the Forest or its contractors, and subsequently approved by ODFW, NMFS, UWFWS, Corps, and DSL.

21. Project actions will follow all provisions and requirements (including permits) of the Clean Water Act for maintenance of water quality standards as described by the Oregon Department of Environmental Quality.

22. All equipment used for restoration work shall be cleaned and leaks repaired prior to entering the project area. Remove external oil and grease, along with dirt, mud and plant parts prior to entering National Forest system lands. Thereafter, inspect equipment daily for leaks or accumulations of grease, and fix any identified problems before entering streams or areas that drain directly to streams or wetlands. This practice does not apply to service vehicles traveling frequently in and out of the project area that will remain on the roadway.

23. The contractor will have a written SPCCP as required under EPA requirements (40 CFR 112), which describes measures to prevent or reduce impacts from potential spills (fuel, hydraulic fluid, etc.). The SPCCP shall contain a description of the hazardous materials that will be used, including inventory, storage, handling procedures; a description of quick response containment supplies that will be available on the site (e.g., a silt fence, straw bales, and an oil-absorbing, floating boom whenever surface water is present).

24. All trucks used for refueling shall carry a hazardous material recovery kit, including absorbent pads to be used during refueling if that occurs in the project area. Any contaminated soil, vegetation or debris must be removed from National Forest System Lands and disposed of in accordance with Oregon State laws.

25. Refuel mechanized equipment at least 150 feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback to prevent direct delivery of contaminants into water. Parking of mechanized equipment overnight or for longer periods of time shall be at least 150 feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback.

26. Absorbent pads will be required under all stationary equipment and fuel storage containers.

27. Dispose of slide and waste material at a USFS approved sites outside riparian protection buffers. Waste material other than hardened surface material (asphalt, concrete, etc.) may be used to restore natural or near-natural contours.

28. Trees that need to be felled during project implementation shall be directionally felled, where feasible, away from the road prism and into the surrounding forest. Trees will not be bucked and will be left undisturbed to the extent possible.

29. Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of pit material. Use only gravel, fill, sand, and rock that are judged to be weed free by District or Forest weed specialists.

30. Place sediment barriers prior to construction around sites where substantial levels of fine sediment may enter the stream directly or through road ditches. Maintain barriers throughout construction.

31. For road decommissioning projects within riparian areas, re-contour the road prism to mimic natural floodplain contours and gradient to the greatest degree possible.

32. Drainage features used for storm proofing projects shall be spaced to disconnect road surface runoff from stream channels.

33. Minimize disturbance of existing vegetation in ditches and at stream crossings to the greatest extent possible.

34. Conduct activities during dry-field conditions—low to moderate soil moisture levels.

35. Restore the stream channel and banks to original pre-road (natural) contours as much as possible when culverts are removed from the road prism.

36. The following PDCs apply to culvert removal/replacement when water is in the channel:

    a. Dewater Construction Site – Upstream of the isolated construction area, coffer dams (diversions) constructed with non-erosive materials are typically used to divert stream flow with pumps or a by-pass culvert. Diversions constructed with material mined from the streambed or floodplain are not permitted. Pumps must have fish screens and be operated in accordance with NMFS fish screen criteria. Dissipate flow energy at the bypass outflow to prevent damage to riparian vegetation or stream channel. If diversion allows for downstream fish passage, (i.e., is not screened), place diversion outlet in a location to promote safe reentry of fish into the stream channel, preferably into pool habitat with cover. When necessary, pump seepage water from the dewatered work area to a temporary storage and treatment site or into upland areas, and allow water to filter through vegetation prior to reentering the stream channel.
    b. Stream Re-Watering – Upon project completion, slowly re-water the construction site to prevent loss of surface water downstream as the construction site streambed absorbs water and to prevent a sudden increase in stream turbidity. Monitor downstream during re-watering to prevent stranding of aquatic organisms below the construction site.

Timber and Rock Hauling.

1. Log and rock hauling will be restricted to operating within the normal operating season (generally June 1 – October 31) unless a waiver is approved. Purchasers desiring to haul outside of the normal operating season will be required to apply for a written waiver from the USFS representative for the timber sale, who will obtain approval from the district ranger prior to the issuance of any waiver.

2. Log and rock haul outside of normal operating season (generally June 1 – October 31) shall not occur on the following roads or road segments : 1600000 (5.4 miles from the intersection with the 1650000 to the intersection with the 1800000), 1600015, 1600670, 1610000 (3.2 miles from the intersection with the 1610630 to the intersection with the 161200), 1610012, 1610630, 1610640, 1611000 (0.4 miles from the intersection with unit 3 to the intersection with unit 4), 1612000, 1612630, 1612640, 1612650, 1631000, 1631630, 1640000, 1640620, 1640630, 1650000, 1650650, and 1800000.

3. Log haul, rock haul and equipment transportation may be allowed outside the normal operating season (generally June 1 – October 31) on aggregate and native surface roads not listed in the previous PDCs if the following criteria are met:

    a. Haul routes must be inspected weekly, or more frequently if weather conditions warrant. Inspections by the timber sale administrator (or qualified specialist) will focus on road surface condition, drainage maintenance, and sources of erosion and sediment delivery to streams.
    b. Sediment traps will be installed where there are potential sediment inputs to streams. Sediment traps will be inspected weekly by the timber sale administrator (or qualified specialist) during the wet season and entrained soil will be removed when the traps have filled to 3/4 capacity. Dispose of these materials in a stable site not hydrologically connected to any stream.

4. Log haul and heavy vehicle transport on paved roads shall be prohibited when the temperature of the road surface, as measured at the lowest elevation along the haul route on National Forest System lands, is above 28 degrees Fahrenheit and when the temperature as measured at the highest elevation on the active haul route is between 28 and 38 degrees Fahrenheit or at any time when the designated timber sale administrator determines that freeze-thaw conditions along the haul route exists or that the subgrade on the paved roads is saturated.

5. Log and rock haul on system and temporary roads shall be prohibited at any time there is 1.5 inches of precipitation within any given 24-hour period as measured at the lowest elevation along the haul route. To measure precipitation, the purchaser may install a temporary rain gauge on National Forest System land near or adjacent to the lowest elevation along the haul route as agreed upon; otherwise, precipitation will be measured according to the Log Creek remote automated weather station.

Fuels Treatment.

1. Pile size and location shall be such to minimize damage to residual trees. Piles shall be located at least 20-feet inside the unit boundary. Piles shall not be placed on or in the following areas: pavement, road surface, ditch lines, or within 100 feet of a stream course.

Action Area

The action area is defined to include the harvest units, the streams and tributaries within the harvest units, road activities, and the hauling routes in the Upper West Fork Hood River, Upper Middle Fork Hood River, and Lower Middle Fork Hood River watersheds (Figure 2).

Action Agency's Effects Determination

This action area is within the present or historic range of LCR Chinook salmon, LCR coho salmon, LCR steelhead, and its proposed critical habitats (Table 2).

Table 2. Listing status, status of critical habitat designations and protective regulations, and relevant Federal Register (FR) decision notices for LCR coho salmon. Listing status: 'T' means listed as threatened under the ESA.

Species	Listing Status	Critical Habitat	Protective Regulations
LCR Chinook salmon	T 6/28/05; 70 FR 37160	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
LCR coho salmon	T 6/28/05; 70 FR 37160	P 1/14/13; 78 FR 2726	6/28/05; 70 FR 37160
LCR steelhead	T 1/5/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160

The USFS determined that the Lava timber sale may affect but is not likely to adversely affect LCR Chinook salmon, LCR coho salmon, LCR steelhead, and their designated and proposed critical habitat. These conclusions were reached for the following reasons:

1. No activity is proposed within any stream channel identified as containing ESA-listed fish or designated as their critical habitat. Take of individuals (*e.g.*, capture, collect) will not occur under the proposed action.

2. Project elements proposed to take place outside the stream channel may affect ESA-listed fish and their critical habitat; however, effects are expected to be discountable, or insignificant, due to implementation of PDCs and BMPs. The USFS will implement no-cut buffers and site-specific buffer prescriptions to protect stream temperature and in-stream wood loading; and implement road construction and maintenance BMPs, and yarding BMPs to prevent and minimize suspended sediment in the stream.

Consultation History

On July 23, 2013, NMFS conducted a site visit with the USFS for the Lava timber sale. On March 18, 2014, the USFS submitted a draft biological assessment (BA) to Level 1 Streamlining Team. NMFS provided comments to the USFS and the project was discussed at the Level 1 meeting on April 8, 2014. On May 5, 2014, NMFS received a request for ESA section 7 consultation from the USFS. Accompanying the request was a BA prepared by a USFS fisheries biologist. Informal consultation was initiated on May 5, 2014. This letter of concurrence is based on information provided in the January 23, 2013, site visit, March 18, 2014 draft BA, the April 8, 2014, Level 1 Streamlining Team meeting, and the May 7, 2014 BA. A complete record of this consultation is on file in Portland, Oregon.

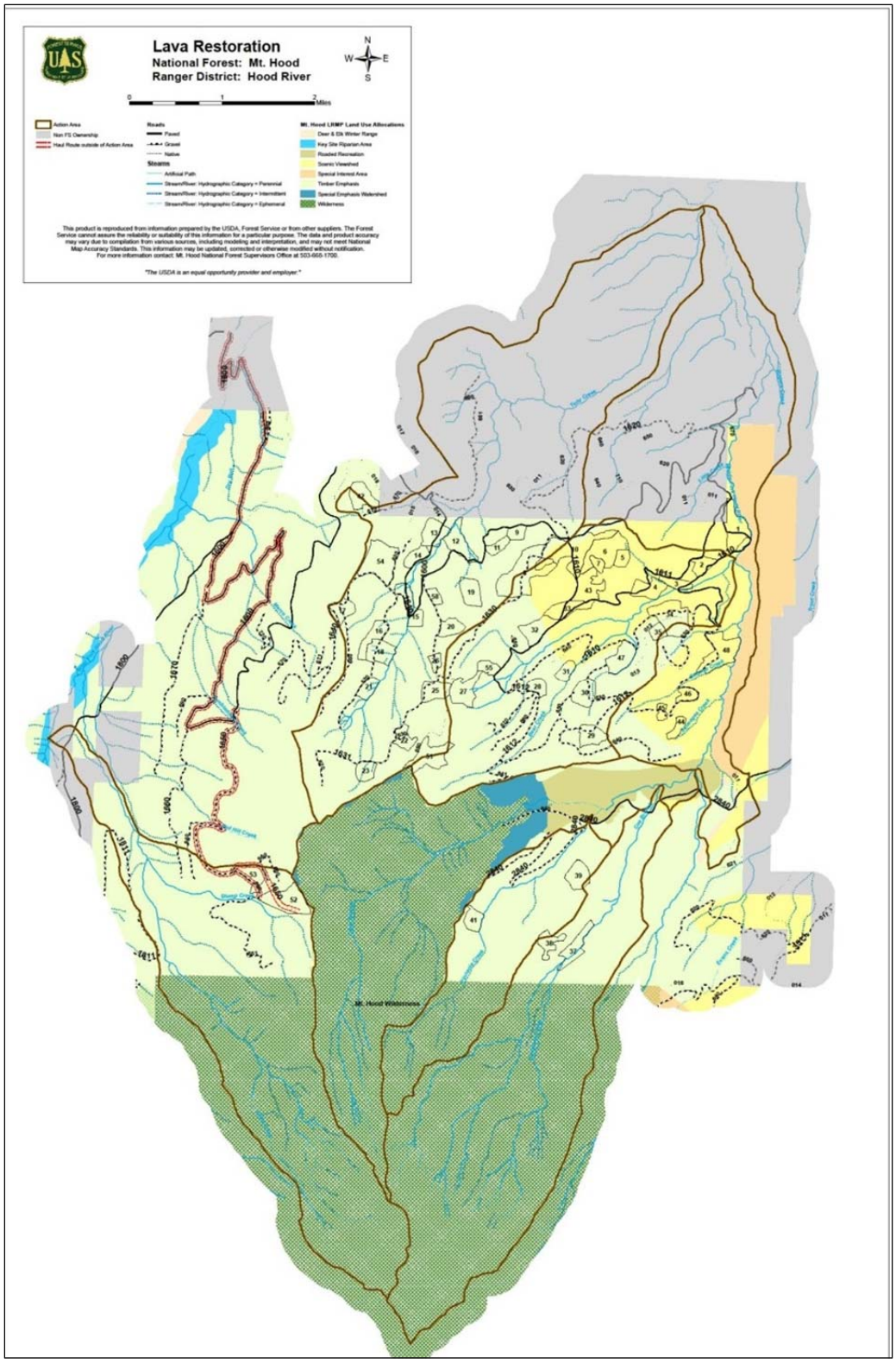

Figure 2. Action area for the Lava timber sale.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. The effects of the proposed action are reasonable likely to include the following:

Temperature. Removing trees in riparian areas reduces the amount of shade which leads to increases in thermal loading to the stream (Moore and Wondzell 2005). In clearcuts, small effects on shade were observed in studies that examined no-cut buffers 46 m (150 ft) wide (Anderson et al. 2007, Science Team Review 2008, Groom et al. 2011a, Groom et al. 2011b). The limited response observed in these studies can be attributed to the lack of trees that were capable of casting a shadow >46 m (150 ft) during most of the day in the summer (Leinenbach 2011). Although clearcuts were used in these studies, the results demonstrate that vegetation that is 46 m (150 ft) away from streams contributes shade to streams in some situations.

The relationship between the width of no-cut buffers on thinning (versus clearcut) prescriptions and stream shade is difficult to generalize because of the limited number studies that have specifically evaluated these buffer conditions. As is seen in no-cut buffer widths with clearcut prescriptions, the wider no-cut buffers resulted in lower reductions of stream shade (Anderson et al. 2007, Science Review Team 2008, Park et al. 2008). In addition, the canopy density of the no-cut buffer appeared to have an ameliorating effect on thinning activities outside of the buffer, with higher protection associated with greater canopy densities in the no-cut buffer (Leinenbach et al. 2013). Finally, higher residual vegetation densities outside of the no-cut buffers were shown to result in less shade loss (Leinenbach et al. 2013).

Although stream shade correlates with the width of no-cut buffers, the relationship is quite variable, depending on site-specific factors such as stream size, substrate type, stream discharge, topography (Caissie 2006), channel aspect, and forest structure and species composition. Inputs of cold water from the streambed, seepage areas on the stream bank, and tributaries can help cool the stream on hot summer days if they are sufficiently large relative to the stream discharge (Wondzell 2012). The density of vegetation in riparian areas affects shade and thermal loading to a stream due to the penetration of solar radiation through gaps in the canopy and among the branches and stems (Brazier and Brown 1973, DeWalle 2010). In some instances (such as narrow streams with dense, overhanging streamside vegetation, or stands on the north sides of streams with an east-west orientation), no-cut buffers as narrow as 30 feet adjacent to clearcuts can maintain stream shade (Brazier and Brown 1973).

Timber Felling and Yarding. There are 47 units in the Lava timber sale. Of these, 25 units will not incur timber falling in the RRs. In the remaining 22 units, timber harvest will occur in the RRs; however, the USFS proposes to minimize stream shade loss by applying no-cut buffers on all steams. Perennial streams will have a minimum 60-foot no-cut buffer. Intermittent streams will have a minimum 30-foot no-cut buffer. Additionally, the USFS considered stream direction, channel width, and cold water input when developing prescriptions for the units, as described below.

Twelve units will have no-cut buffers greater than the minimums described above due to topographical slope breaks and proximity to LFH (Table 1, above). There are four units adjacent to LFH. These units will unit will have 90-135-foot no-cut buffers on perennial streams. These buffers do not maintain a 150-foot buffer that would fully limit the amount of solar radiation to streams; however, the no-cut buffers have a high canopy covers percentage (70%), and high tree densities (310-454 TPA). In addition, the remainder of the unit will maintain moderate post-thinning canopy covers (40%), and moderate post thinning tree densities (150-180 TPA). The higher canopy covers and tree densities will help ameliorate the effects of these no-cut buffers (Leinenbach et al. 2013). The other units that are adjacent to perennial streams are 1,850 ft-4.6 miles upstream of LFH, and will maintain no-cut buffers 60-135 feet. The majority of the streams in these units are less than 10 feet wide. The no-cut buffers on these small streams will be protective of shade (Brazier and Brown 1973). In addition, the majority of these streams have spring or glacial influence. Any decrease in stream shade and subsequent increase in stream temperature from removing trees within 1 SPTH will be ameliorated by these cold water inputs prior to reaching LFH (Wodzell 2012). In addition to the design criteria for the units discussed above, the USFS proposes to thin only the north side of streams in many units, limiting the effects of riparian thinning on stream temperature.

Logging may cause a decrease in stream shade and a minor increase in stream temperature for some stream reaches upstream of LFH. For reasons discussed above, the effects are not likely to transfer downstream and be insignificant to LCR Chinook salmon, LCR coho salmon, and LCR steelhead and their designated or proposed critical habitat.

Road Work. There will not be any new roads that will be constructed within the RRs and will have a discountable probability of increasing stream temperature.

The USFS proposes to reconstruct 2,976 feet of roads within RRs. The majority of the roads are located on the outer portion of the RRs, except where the roads cross streams. The reconstructed roads will not cross LFH; however, they will cross three intermittent and one perennial stream upstream of LFH. The intermittent streams are over 3 miles upstream LFH, and the perennial stream is approximately 2 miles upstream of LFH. All reconstructed roads will be on existing or decommissioned roadbeds, thus limiting the amount of tree removal. The reconstruction of these roads, however, will delay the growth of trees. Since the majority of the reconstructed roads will be in the outer portions of the RRs, the reduction in shade will be minimal and will not cause an increase in stream temperature. The road that crosses the perennial stream will cause a reduction in shade, and a possible increase in stream temperature. Any decrease in stream shade and subsequent increase in stream temperature from removing trees within 1 SPTH will be ameliorated by these cold water inputs prior to reaching LFH (Wodzell 2012).

Road renovation and maintenance can increase stream temperature from the removal of vegetation adjacent to streams. The only road maintenance activities that could affect stream temperature are danger tree felling, and culvert replacement. The USFS estimates that 19 trees could be felled within 1 SPTH of the stream for danger tree felling. It is unlikely that there will be a reduction of stream shade and a subsequent increase in stream temperature from the removal of these trees because this is a small number of trees and they will be spatially separated throughout the haul route.

The USFS proposes to replace one culvert located 4 miles upstream of LFH. The culvert replacement will occur in the existing road bed and no overstory vegetation will be removed that will reduce shade. Culvert replacement will not cause an increase in stream temperature since no overstory shade canopy will be removed. Therefore, any effect of road work on temperature is expected to be insignificant for listed species or critical habitat.

Timber Hauling. Timber hauling will occur on roads adjacent to LFH; however, there is no vegetation that will be removed due to hauling. Thus, timber hauling will not affect stream temperature.

Fuels Treatment. The USFS proposes slash piling and burning of material from the thinning operation. Slash will be piled with machines and will be located on skid trails and landings. All pile burning will occur at least 100 feet from streams. Pile burning will occur during high moisture conditions in the fall and winter when conditions are favorable for controlling the flame, therefore, the likelihood of any trees adjacent to the slash piles being harmed is discountable.

Suspended Sediment and Substrate Embeddedness. Living tree roots help stabilize soil. Timber felling kills the roots, which increases the probability of slope failure (Swanston and Swanson 1976), particularly on steep slopes (i.e., >70% concave, >80% planar or convex slopes) (Robison et al. 1999). This also increases the potential of sediment delivery to the stream network. The occurrence probability is related to the harvest intensity, soil properties, geology, unit slope, and precipitation level. Depending on the prescription used, thinning will greatly reduce the number of living trees within the treated stands. As the roots of harvested trees die and decompose, their effectiveness in stabilizing soils will decrease over time. However, the remaining trees are likely to experience rapid growth from decreased competition and, as a result, increase their root mass and ability to stabilize soils in the treated stand. All units were field reviewed by the hydrologist and soil scientist for slope stability. There were no signs of shallow or deep-seated slope instability in the project area.

Timber Felling and Yarding. Timber felling and yarding disturbs soils and increases their potential for transport to area stream channels. Several studies document the ability of buffer strips to reduce erosion and sediment delivery. Vegetated buffer areas ranging in width from 40 to100 feet appear to prevent sediment from reaching streams (Burroughs and King 1989, Corbett and Lynch 1985, Gomi et al. 2005). Lakel et al. (2010) concluded that streamside management zones (buffers) between 25 and 100 feet were effective in trapping sediment before it could enter streams. Ground-based yarding can be accomplished with relatively little damage to the existing shrub and herbaceous ground cover, thus limiting the exposure of bare soil and

maintaining important root structure that holds soil in place. Skyline or multi-spanning yarding systems reduce soil impacts because the logs are suspended above the ground throughout much or all of the yarding process. Helicopter yarding also reduce soil impacts because logs are fully suspended above the ground.

The USFS proposes no-cut buffers on all steams. Perennial streams will have a minimum 60-foot no-cut buffer. Intermittent streams will have a minimum 30-foot no-cut buffer. The units in closest proximity to LFH will have 90-135-foot no-cut buffers. The greatest risk of sediment delivery to streams resulting from tree felling and yarding would occur along intermittent streams with 30-foot no-cut buffers; however, the probability that timber felling and yarding would result in sediment entering streams is unlikely. This is because the majority of these units will either have no yarding (cut and leave), skyline yarding, or helicopter yarding, which will minimize the amount of ground disturbance. The only unit that will have ground-based yarding will have a 100-foot equipment exclusion zone, thus minimizing the amount of ground disturbance. In addition, the USFS stated that the no-cut buffers are well-vegetated with ground cover and these buffers will help stabilize streambanks and prevent the transport of soils to streams. Given that soil disturbance will be minimal, and the no-cut buffers are well vegetated with ground cover, the no-cut buffers are adequate to prevent sediment delivery to streams. Therefore, the likelihood of sediment delivery into streams beyond the no-cut buffers is discountable.

Road Work. There is a high probability that road work will introduce sediment into ditch line and in some instances, into streams. At greatest risk of contributing sediment to LFH are: (1) Road and landing construction on road segments draining to LFH; (2) Road renovation and maintenance on road segments draining to LFH; and (3) stream culvert installation, replacement, and removal in close proximity to LFH.

The USFS proposes to construct 1 mile of new, temporary roads. These roads will be native-surfaced spur roads and will not cross any streams, will not be located within RRs, and will not have any hydrologic connection to streams. The USFS proposes to construct 342 landings (50 acres). New landings will not be constructed in RRs. The use of existing landings will not occur within 1 SPTH of streams. Landings will not have any hydrologic connectivity to streams. Culvert installation will occur during the ODFW in-water work window (July 15-August 15). New road and landing construction will generally occur during the dry season (June 1-October 31), but is not limited to this timeframe depending on weather and soil conditions. Road work will not occur when soils are saturated and during or immediately following heavy precipitation events to minimize erosion and sedimentation. Due to the hydrological disconnection of these roads from streams, there is a discountable probability that new road construction will affect suspended sediment and substrate embeddedness in LFH.

The USFS proposes to reconstruct 13.7 miles of existing (11.2 miles) and decommissioned roads (2.5 miles). Road reconstruction will include road clearing, adding fill material, geotextile reinforcement, and adding aggregate to the surface. Of the reconstructed roads, 2,976 feet will occur within RRs via stream crossings. The reconstructed roads will cross three intermittent streams and one perennial spring. Culverts will be installed on the intermittent streams. A culvert currently exists on the perennial spring. The intermittent stream crossings are 3.4-4.6 miles

upstream of LFH, and the perennial spring crossing is 2 miles upstream of LFH. One culvert will be replaced on a tributary to Tony Creek. The culvert is 4 miles upstream of LFH.

The USFS proposes to maintain approximately 60 miles of existing roads prior to hauling. Road maintenance will include surface blading, danger tree felling, roadside brushing, spot rock surfacing, and ditch and culvert cleaning. Material that is removed from ditch lines, culverts, and blading will be placed below the road prism outside riparian protection buffers.

Road work will generally occur during the normal operating season, generally June 1 – October 31, but is not limited to this timeframe depending on weather and soil conditions. Road maintenance will not occur when soils are saturated and during or immediately following heavy precipitation events to minimize erosion and sedimentation. The USFS will ensure that cross-drains are installed between the road and the stream crossing at a minimum of 100 feet apart. In addition, the USFS stated that all cross drains outlet to the forest floor with well-vegetated ground cover. Luce and Black (1999) noted that blading of aggregate roads with well-vegetated ditches yielded no increase in sediment production. Existing vegetation in ditch lines connected to streams will not be removed unless an effective sediment trap is installed and maintained until vegetation is reestablished. Sediment traps will include check dams constructed of bio-bags, straw bales, or other biodegradable material. Culvert work is at least 2 miles upstream of LFH. Due to the proximity of the culverts from LFH, any suspended sediment will be stored within the smaller tributary streams (Skidmore et al. 2011) prior to reaching LFH. Due to the PDCs and BMPs as described above and the proximity of some of the roads from LFH, any effect of suspended sediment and substrate embeddedness on LFH is discountable.

Timber Hauling. There is a high probability that the use of hauling roads will introduce some sediment into roadside ditches and, in some cases, into streams. The amount of sediment eroded from road surfaces depends on the amount of traffic, the durability of the surface, the level of maintenance, the condition of the ditches and the amount of precipitation. Hauling on native or aggregate surfaced roads during the dry season (generally June 1 to October 31) typically results in less sediment production, when compared with wet season use, because road fines tend to remain on the road surface in the absence of rainfall runoff. Any fine sediment created would most likely be during the first few precipitation events in the fall, resulting in time-limited transport of fine sediment into road drainage ditches All but one aggregate-surfaced and one native-surfaced haul routes will have wet weather hauling restrictions (November 1-May 31). These haul routes do not cross any streams and do not have any hydrologic connectivity to streams.

The BMPs described above and in the road renovation and maintenance section, including maintaining well vegetated ditches, cross drain spacing, and wet-weather hauling restrictions, will prevent sediment generated from hauling from reaching streams. Therefore, any effects from increased inputs of fine sediment will be discountable.

Fuels Treatment. The USFS proposes slash piling and burning. Slash will be piled with machines and will be located on skid trails and landings, and will not occur within 100 feet of streams. Therefore, the effect of fuels treatment on suspended sediment and substrate embeddedness will be discountable.

Chemicals and Nutrients. Timber felling, timber yarding, timber hauling, road and landing work, and fuels treatment have the potential to affect the chemicals and nutrients habitat indicator due to the operation of machinery near streams. The proposed action does not include introduction of contaminants or excess nutrients into any stream channel. Furthermore, the PDCs that will be implemented by the USFS, including 150-foot setbacks for refueling, reduce the aquatic contamination risk to extremely unlikely. Therefore, the potential for an effect on the chemical contamination indicator where LFH occurs is discountable.

Woody Material. Removal of wood mass within 1 SPTH has the greatest potential of affecting recruitment of woody material (FEMAT 1993). For near-stream riparian inputs, empirical and modeling studies suggest that stream wood input rates decline exponentially with distance from the stream and vary by stand type and age (McDade et al. 1990, Van Sickle and Gregory 1990, Gregory et al. 2003). Timber felling and yarding within RRs may have a minor effect on the recruitment of functionally-sized wood to adjacent small stream channels.

Timber Felling and Yarding. The USFS proposes to protect in-stream wood recruitment by applying no-cut buffers on all streams. Perennial streams will have a minimum 60-foot no-cut buffer. Intermittent streams will have a minimum 30-foot no-cut buffer.

Twelve units will have no-cut buffers greater than the minimums described above due to topographical slope breaks and proximity to LFH (Table 1, above).

There are four units adjacent to LFH. These units will maintain no-cut buffers of 90-135 feet. Assuming the buffers are fully stocked, they will capture approximately 88-98% of the existing wood recruitment (McDade et al. 1990, Spies et al. 2013). There two units in close proximity to LFH. These units will maintain no-cut buffers 60-100 feet. Assuming the buffers are fully stocked, they capture approximately 78-92% of the existing wood recruitment (McDade et al. 1990, Spies et al. 2013). Thinning is likely to preclude suppression mortality of trees in the treated units for decades. Additional wood can be recruited to fish-bearing streams from upslope and upstream areas through landslides and debris flows (McGarry 1994, Reeves et al. 1995). In some areas, wood transported in this manner may constitute up to 50% of the wood recruited to downstream reaches (McGarry1994). All units were field reviewed by the hydrologist and soil scientist for slope stability. There were no signs of shallow or deep-seated slope instability in the project area. Although site-scale reductions in stream channel wood loads are reasonably likely to result from the proposed action, changes in LFH are not likely to be measureable. This is because the untreated buffers and adjacent stands, as well as stands along unlogged streams in the action area, likely will continue to provide adequate wood loading to affected streams in the near term to prevent measurable adverse effects (e.g., changes in sediment transport, increases in stream velocity) in LFH. Based on this information, timber felling will have an insignificant effect on woody material.

Road Work. There will not be any new roads and landings that will be constructed within the RRs, and will have a discountable probability of decreasing in-stream wood recruitment.

The USFS will not reconstruct landings within 1 SPTH of streams. The USFS proposes to reconstruct 2,976 feet of roads within RRs. The majority of the roads are located on the outer

portion of the RRs, except where the roads cross streams. In addition, all reconstructed roads will be on existing or decommissioned roadbeds, thus limiting the amount of tree removal. The reconstruction of these roads, however, will delay the growth of trees. Since the majority of the reconstructed roads will be in the outer portions of the RRs, and the number of trees removed will be minimal, there will be an insignificant effect to in-stream wood recruitment from road and landing reconstruction.

The only road maintenance activities that could affect in-stream wood recruitment are danger tree felling, and culvert replacement. The USFS estimates that 19 trees could be felled within 1 SPTH of the stream for danger tree felling. This small reduction of in-stream wood recruitment from the removal of these trees is likely to have an insignificant effect on wood recruitment because this is a small number of trees and they are spatially separated throughout the haul route.

The USFS proposes to replace one culvert located 4 miles upstream of LFH. The culvert replacement will occur in the existing road bed and no overstory vegetation will be removed, and will have a discountable probability of affecting in-stream wood recruitment.

Timber Hauling. Timber hauling will occur on roads adjacent to LFH; however, no vegetation will be removed due to hauling. Thus, timber hauling will have a discountable probability of affecting woody material in streams.

Fuels Treatment. The USFS proposes slash piling and burning of material from the thinning operation. Slash will be piled with machines and will be located on skid trails and landings. All pile burning will occur at least 100 feet from streams. Pile burning will occur during high moisture conditions in the fall and winter when conditions are favorable for controlling the flame and will not likely result in the loss of trees adjacent to the slash piles. Therefore, there will be a discountable probability of affecting in-stream wood recruitment from fuels treatment.

Pool Frequency and Quality, Large Pools, Off-Channel Habitat, Refugia, Width to Depth Ratio, Streambank Condition, and Floodplain Connectivity. Changes in these channel-associated habitat indicators are dependent on changes to the physical processes that shape and develop these features. Because negative effects to habitat features related to these processes (i.e., suspended sediment, substrate character, woody material) will not be measurable, it is likely that effects on these six indicators will also be discountable or insignificant.

Change in Peak/Base Flows. Forest management activities can affect the rate that water is stored or discharged from a watershed. Total water yield typically increases due to reduced evapotranspiration (Harr et al. 1975, Harr 1976, Hetherington 1982, Duncan 1986, Keppler and Zeimer 1990, Jones 2000). Timber felling may result in winter flows with higher peak volumes, and potentially result in earlier peak discharge times (Satterlund and Adams 1992, Jones and Grant 1996). Timber yarding and fuels treatment may, to a lesser degree, increase the probability and magnitude of these effects. Hauling may increase compacted soil at landings, and on temporary and permanent roads. The complex process of water routing can be modified by management via harvesting of trees and compaction of soil. Routing is predominantly affected by road and ditch networks (Harr et al. 1975, Jones and Grant 1996). New, temporary roads will

not be occur in RRs and will not cross streams. Reconstructed roads will cross stream channels; however, installation of additional cross-drains and ditch-relief culverts may ameliorate the hydrologic connectivity. Luce and Black (1999) found that incorporating design features such as cross-drains and ditch-relief culverts into roads reduced the hydrological connection of these structures. Therefore, any changes to peak/base flows will be insignificant.

The removal of vegetation and associated changes in evapotranspiration are also not likely to result in measurable changes in stream flow. This is because the majority of timber harvest will include thinning. The increase in soil compaction is minor due to conservation measures proposed by the USFS (*e.g.*, aerial yarding, limiting ground-based yarding to the dry season). Fuels treatment will not expose large areas of mineral soils or hydrophobic conditions. Therefore, any effect of forest practices on changes in base/peak flows are likely to be insignificant.

Drainage Network Increase. Timber felling, timber yarding, timber hauling, and fuels treatment have no causal mechanism to affect an increase in the drainage network.

Road construction and reconstruction could cause a minor increase in the drainage network. The USFS proposes to construct 1 mile of temporary roads and reconstruct 13.7 miles of existing and decommissioned roads. Following harvest, newly constructed roads will be decommissioned. Reconstructed roads could cause a minor increase in the drainage network. This minor increase in the drainage network will be offset to some degree by the installation of new cross drains that would drain to relatively, flat, vegetated slopes. Road decommissioning would restore and improve hydrological function to the drainage network. All decommissioned roads would be hydrologically disconnected from streams. Due to work completed under the road and landing work project element, the proposed action would affect this indicator, but the effect is likely to be insignificant.

Riparian Reserves. The proposed project will cause a short-term effect to this watershed condition indicator. The magnitude of effect can be assessed by referring to the likely effects on related individual habitat indicators (*e.g.*, temperature, wood recruitment). Although effects to some of the habitat indicators may occur, these effects are likely to be insignificant.

Road Density and Location. The UFS proposes to construct approximately 1 mile of temporary roads and renovate 13.7 miles of existing roads. Following harvest, newly constructed roads will be decommissioned. The road construction and reconstruction will generate a short-term increase in road density; however any negative effects to LFH are likely to be insignificant due to the BMPs implemented by the USFS (no hydrologic connection of roads to the stream network).

Disturbance History and Disturbance Regime. The proposed action will disturb stands and riparian features, and thereby affect the history and disturbance regime indicators; however, the effects will be insignificant in magnitude. These are watershed condition analysis indicators associated with spawning, rearing, and migration. The effects of the proposed action are insignificant to the disturbance history and disturbance regime indicators because (1) The harvest only treats managed stands; (2) effects of the proposed activities are minimized in part by the no-

cut buffers; (3) road reconstruction will occur on previously constructed roads (4) new road construction is temporary with no hydrological connections to the stream network; and (5) all project elements will have discountable, or insignificant effects on all the other habitat and watershed condition indicators. Overall, the effects of the various disturbances from the project elements are insignificant.

Effects on Listed Species and Critical Habitat

The following discussion applies the analysis of individual habitat indicators to listed species and their critical habitats to determine if all effects of the action will be insignificant or discountable.

Individual LCR Chinook salmon, LCR coho salmon, and LCR steelhead will be exposed to the above-described effects of the proposed action. Although changes to water temperature, suspended sediment, woody material, pool frequency and quality, large pools, off-channel habitat, refugia, width to depth ratio, streambank condition, floodplain connectivity, change in peak/base flow, drainage network increase, road density and location, disturbance history and regime, and riparian reserves because of reduced shade, soil disturbing activities, created openings, and decreased wood volume were identified; overall, these effects of the proposed action are reasonably certain to be discountable or insignificant. Because of the use of proposed design criteria including no-cut buffers, restrictions on yarding corridors, required minimal suspension during yarding, road maintenance, road reconstruction, road construction, haul route inspections, and suspension of wet season haul to prevent road surface degradation and generation of sediment, as well as the limited scope of the project, and general site-specific characteristics, it is reasonably certain that any associated effects on listed species will be of such a small magnitude that that they could not be meaningfully measured, detected, or evaluated and/or extremely unlikely and therefore discountable. Furthermore, the combined effects from the proposed action on LCR Chinook salmon, LCR coho salmon, and LCR steelhead are reasonably certain to be insignificant or discountable.

The proposed action will affect freshwater spawning, rearing, and migration critical habitat PCEs of LCR Chinook salmon, LCR coho salmon, and LCR steelhead including substrate, water quality, water quantity, floodplain connectivity, forage, and natural cover. The effects of the proposed action on these features are summarized above as a subset of the habitat-related effects of the action that were discussed more fully in the Effects of the Action section; however, as described above, the effects to critical habitat from the proposed action will be discountable or insignificant. Furthermore, NMFS also analyzed the combined effects from the proposed action on designated and proposed critical habitat and is reasonably certain that the combined effect to critical habitat will also be insignificant or discountable.

There are no other concurrent Federal action consultations within the watersheds that, when combined with the proposed action, will change the effects analysis for this action. In addition, there are no interrelated or interdependent actions related to the proposed project that require consideration. All of this information was used to make an overall project effect determination.

Conclusion

Based on this analysis, NMFS concurs with USFS that the proposed action is NLAA LCR Chinook salmon, LCR coho salmon, LCR steelhead, and designated and proposed critical habitat. Further, NMFS does not anticipate the proposed action will result in take of LCR Chinook salmon, LCR coho salmon, and LCR steelhead.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the USFS or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

Sincerely,

William W. Stelle, Jr.
Regional Administrator

cc: Chuti Fiedler, U.S. Forest Service

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