



Oregon

Kate Brown, Governor

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February 8, 2022

Via: Electronic transmission

Oregon-Washington Coastal Office
1201 Northeast Lloyd Boulevard
Suite 1100,
Portland, OR 97232
Attn: Dr. Kim Kratz

Subject: Application for an Individual Incidental Take Permit under the Endangered Species Act of 1973 for the Oregon Department of Forestry's Western Oregon State Forests Habitat Conservation Plan.

Dear Dr. Kratz:

Oregon Department of Forestry (ODF) is pleased to submit the application for a Section 10 permit under the Endangered Species Act (ESA) of 1973. Our application follows the outline provided in the documented entitled *National Marine Fisheries Service Application Instructions for Permits for the Incidental Take of Endangered or Threatened Species Under the Endangered Species Act* as well as applicable agency regulations located at 50 C.F.R. § 222.308.

The attached Western Oregon State Forests Habitat Conservation Plan (HCP) is included to support our request for incidental take permits (ITPs) for Western Oregon State Forests managed by ODF. The HCP is a long-term plan that will support the conservation of threatened and endangered species, or those species that are likely to become listed as such, while allowing management of the forest, including ongoing timber harvest activities.

ODF manages state forests for multiple values including social, environmental, and economic values. Sustainable and predictable timber harvests provide revenues to counties, local taxing districts, and ODF, and jobs in rural communities. Timber production goals focus on growing stands that generate a product mix of predominately large and medium sawtimber. Prior to final harvest, young stand management and mature stand partial cutting entries provide habitat values for native wildlife species. At final harvest, retention standards for green trees, snags and downed wood provide biological legacies for future stands. ODF provides diverse recreation, education, and interpretation opportunities for the public to enjoy state forests and learn about their ecology and management. ODF is currently managing Western Oregon State Forests under the 2010 Northwest and Southwest Oregon State Forests Management Plans, which provides management direction for all Board of Forestry Lands and Common School Forest Lands in western Oregon.

In the course of timber harvest, stand management, road system management, recreation infrastructure construction and maintenance, and HCP conservation actions, there is potential to take 10 covered fish species/ESUs that are managed by National Oceanic and Atmospheric Administration (NOAA) Fisheries.

I. **Title:** Application for an Individual Incidental Take Permit under the Endangered Species Act of 1973

II. **Date of Application:**

III. **The name, address, telephone, and fax number of the applicant. If the applicant is a partnership, corporate entity or is representing a group or organization, include applicable details.**

Oregon Department of Forestry
 2600 State Street
 Salem, Oregon 97310
 Attention: Mr. Calvin Mukumoto
 503-945-7200
 cal.t.mukumoto@odf.oregon.gov

IV. **A description of the endangered or threatened species, by common and scientific name, and a description of the status, distribution, seasonal distribution, habitat needs, feeding habits and other biological requirements of the affected species.** Bold text retained from NOAA Fisheries Application Instructions.

Covered species are those species for which NOAA Fisheries will provide take authorization to ODF to conduct the covered activities. The plan area provides habitat for a variety of species, including species listed under state and federal endangered species protection laws, and others that are not yet ESA listed, but may become ESA listed during the permit term. ODF selected the covered species for the HCP based on review of all species of conservation concern known or anticipated to occur in the plan area during the permit term. These species were then screened for coverage based on the four selection criteria described in Section 1.2.5.1, *Covered Species Selection Criteria*. A summary of that selection process is provided in Appendix D, *Species Considered for Coverage*. The review and selection process found 10 NOAA Fisheries managed species meeting all selection criteria (Table 1-2 in Chapter 1, *Introduction*).

Table 1-1 in HCP. Covered Species

Species	Listing Status		Federal Agency Jurisdiction
	Federal	State	
Fish			
Oregon Coast coho (<i>Oncorhynchus kisutch</i>)	FT	--	NOAA Fisheries
Oregon Coast spring-run Chinook (<i>O. tshawytscha</i>)	UR	--	NOAA Fisheries
Lower Columbia River Chinook (<i>O. tshawytscha</i>)	FT	--	NOAA Fisheries
Lower Columbia River coho (<i>O. kisutch</i>)	FT	SE	NOAA Fisheries
Columbia River chum (<i>O. keta</i>)	FT	--	NOAA Fisheries

Species	Listing Status		Federal Agency Jurisdiction
	Federal	State	
Upper Willamette River spring-run Chinook (<i>O. tshawytscha</i>)	FT	--	NOAA Fisheries
Upper Willamette River winter steelhead (<i>O. mykiss</i>)	FT	--	NOAA Fisheries
Southern Oregon/Northern California Coast coho (<i>O. kisutch</i>)	FT	--	NOAA Fisheries
Southern Oregon/Northern California Coastal spring-run Chinook	UR	--	NOAA Fisheries
Eulachon (<i>Thaleichthys pacificus</i>)	FT	--	NOAA Fisheries

SE = State Endangered; ST = State Threatened; FT = Federal Threatened; UR = Under Review

- V. **A detailed description of the proposed activity:** Covered activities include timber harvest, stand management, road system management, recreation infrastructure construction and maintenance, and HCP conservation actions.

The conservation strategy ODF will use to avoid, minimize, and mitigate impacts of take on listed species are described in Chapter 4, *Conservation Strategy*. Chapter 5, *Effects Analysis and Level of Take*, specifies the take that is predicted to occur by carrying out the proposed covered activities (Chapter 3, *Covered Activities*), the impacts of such taking, and the net effects following consideration of the proposed conservation actions described in this chapter. Chapter 6, *Monitoring and Adaptive Management*, specifies the monitoring and adaptive management program that will be implemented to help ensure the intended benefits of the conservation strategy are realized.

The anticipated dates, duration, and the specific location of the activity: The Western Oregon State Forests HCP and associated ITPs will have concurrent terms of 70 years. The 70-year term was selected to balance the risks associated with shorter and longer terms. A term of less than 70 years would limit ODF's abilities to conduct long-term forest management practices, which are conducted in accordance with Implementation Plan cycles that are typically 10 years in length. A term of more than 70 years would increase the risk that unpredictable ecological changes could adversely affect the status of the covered species in the plan area and increases the uncertainty associated with modeling those changes. Both of these items could compromise the conservation strategy. The level of certainty associated with a 70-year term enables ODF to make long-term plans and investments through multiple implementation cycles with the assurance that they will be able to continue managing the forest in a manner that complies with ESA requirements. In addition, the monitoring and adaptive strategy outlined in Chapter 6, *Monitoring and Adaptive Management* outlines how implementation of the conservation strategy will be monitored and reported, and how changes will be made, if needed, in response to monitoring results, to manage in response to change. This will further allow ODF to manage uncertainty that may arise during the permit term.

The HCP plan area includes all state forestlands west of the crest of the Cascade Range that are managed by ODF (Figure 1-1 in Chapter 1, *Introduction*). Most of these state forest lands are in northwestern Oregon in the Tillamook, Clatsop, and Santiam State Forests. Smaller blocks of state forest lands are located in the central Coast Range west of Corvallis and Eugene. In southern Oregon, state forest lands are found in southern Douglas and northern Josephine counties near the town of Glendale, and in tracts in Douglas and Coos counties near Reedsport and Coos Bay. Smaller tracts of state forest land are scattered throughout the plan area. State forest lands in the Klamath-Lake District or in eastern Oregon are not included in this HCP. Approximately 65% of the plan area is found in only two counties: Tillamook and Clatsop. Approximately 80% of the plan area is found in only four counties: Tillamook, Clatsop, Washington, and Lane (Table 2-1a and 2-1b in Chapter 2, *Environmental Setting*).

The HCP permit area is defined as the area where incidental take is covered under the incidental take permit, which includes the portion of the plan area that ODF currently controls and where all covered activities will occur and where conservation measures will apply. The permit area includes a total of 639,489 acres (Figure 1-1 in Chapter 1, *Introduction*): 613,663 acres of Board of Forestry Lands (BOFL) and 25,826 acres of Common School Forest Land (CSFL) managed by ODF (Table 1-1). The CSFL is included in the permit area and covered by this HCP in order to provide ODF with take authorization for their activities on this land, but only as long as there is an enforceable agreement that provides ODF with the authority to manage those lands. The ITPs issued for this HCP would not provide take authorization for another land manager besides ODF to manage CSFL.

The HCP will also be applied, and permit coverage extended, to covered activities that ODF performs on Bureau of Land Management (BLM) lands. ODF conducts activities on BLM lands adjacent to ODF-managed lands during the course of covered activities described in Chapter 3, *Covered Activities*. In situations where covered activities would occur on BLM lands ODF would follow the terms of the HCP and permits. This work would continue to be managed under the 1960 right-of-way agreement between ODF and BLM (or later agreements that amend or replace this agreement). Under that agreement the BLM assesses ODF activities to ensure that activities are implemented consistent with federal law, including the ESA. Previous to this HCP ODF was managing that work using take avoidance strategies.

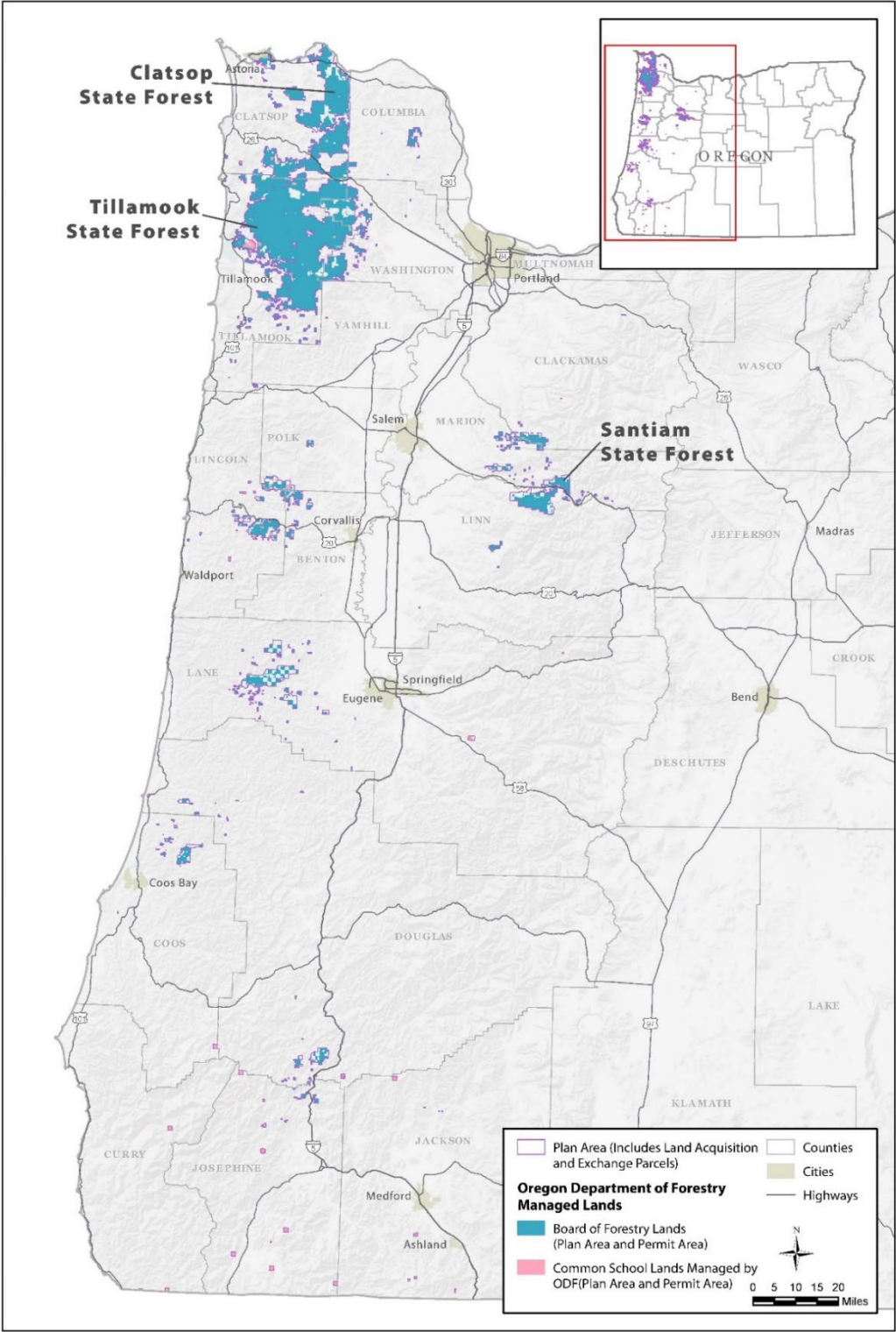


Figure A-1. Western Oregon State Forests HCP Plan and Permit Area

VI. **The conservation plan based upon the best available scientific and commercial data:** See attached multi-species HCP. Summary details below taken from referenced sections of the HCP. Bold text retained from NOAA Fisheries Application Instructions.

A. **The anticipated impact of the proposed activity on the listed species: This section must specify the number of estimated takes by each type of taking and by activity type. You must provide a detailed description of how you arrived at your take estimates, including any assumptions included in the modeling or calculations. You may have differing amounts of information upon which to base take estimates, and you may use different methods; most important is that the methodology used is defensible and that the take estimate is not arbitrary.**

For covered fish, a NetMap watershed analysis was prepared by TerrainWorks (2020) for the permit area. This analysis includes any subbasin (HUC-8) that is at least partially in the permit area. NetMap will provide a consistent synthetic stream layer that covers the permit area and will allow for the classification of stream reaches by vulnerability to increased stream temperatures and estimates of wood recruitment. See Section 2.5.1, *Species Occurrence Data*.

1. Fish Species

The estimated number of animals of the listed species and, if applicable, the subspecies or population group, and range.

See Section 2.5.1, *Species Occurrence Data* in attached multi-species HCP. Fish occurrences are based on fish distribution data from the StreamNet cooperative information management and data dissemination project (<https://www.streamnet.org/>) and a NetMap watershed analysis. This analysis includes all fish distributions for any subbasins (hydraulic unit codes [HUC-8]) that are at least partially in the permit area. The analysis also considered available information from ODF regarding stream blockages and associated upstream intrinsic potential fish habitat. The HCP covers approximately 5,405 river miles in the permit area that are within the range of the covered salmon species distribution.

Species Accounts for each fish species are provided in Appendix C, *Species Accounts* of the HCP. Within the permit area designated critical habitat occurs for Oregon Coast coho, Lower Columbia River coho, Lower Columbia River Chinook, Upper Willamette River spring Chinook, and Upper Willamette River winter steelhead (Table 5-2 in Section 5.3.4, *Effects on Critical Habitat*). There is no designated critical habitat for Oregon Coast spring-run Chinook, Columbia River chum, and Southern Oregon/Northern California Coasts coho and spring-run Chinook in the permit area.

Table A-1 of HCP. Miles of Critical Habitat by ESU in the Permit Area

ESU	Total Miles of Designated Critical Habitat	Miles of Critical Habitat in Permit Area	Percent
Oregon Coast coho	6,568	435	7
Nehalem Independent Population	514	192	37
Tillamook Bay Independent Population	375	189	50
Lower Columbia River coho	3,281	25	<1
Lower Columbia River Chinook	1,314	5	<1
Columbia River chum	712	0	0
Upper Willamette River spring Chinook	1,472	3	<1
Upper Willamette River winter steelhead	1,285	14	1
Southern Oregon/Northern California Coasts coho ^a	1,649	2.2	<1

^a A GIS dataset does not currently exist for Southern Oregon-Northern California Coast coho critical habitat. These numbers are based on steelhead distribution (as described in Appendix C) and is confined to Southern Oregon; stream miles in Northern California are not included.

The type of anticipated taking, such as harassment, predation, competition for space and food, etc.

Salmonids: The covered activities described in Chapter 3 could result in the following categories of stressors on the covered salmonid species, each of which is described in more detail under Section 5.3.1, *Sources and Types of Effects*. Vulnerability of the covered salmon to take by the described activities is dependent on the life-stage of the salmon, their residency time in the system, their location in the system, and the timing of activities.

- (A) **Impede fish passage.** Reduction in access to suitable habitat due to barriers (e.g., undersized culverts, large jump heights). Stream crossings such as bridges or culverts can be migration barriers that affect the covered salmon and steelhead. Migration barriers limit or prohibit access to upstream habitat, limiting spawning and rearing locations within the species range. Culvert replacement would create a temporary fish barrier during construction and may decrease shading and increase sedimentation. Effects of instream work are described in Section 5.3.1.2, *Water Quality and Quantity* as are the effects associated with vegetation removal and increased sedimentation.
- (B) **Cause direct mortality.** Injury or mortality of individuals as a result of handling or crushing by equipment, humans, or felled trees. Direct mortality of the covered salmon and steelhead could occur if they make contact with equipment, personnel, or chemicals, or are present during dewatering associated with the covered activities. In-water activities such as culvert maintenance and installation, stream crossing construction, and stream enhancement projects have the potential to affect the covered fish species.
- (C) *Eulachon:* Sources and types of take for this fish would be the same as those described for salmon and steelhead in Section 5.3. Eulachon occur primarily in the mainstem Columbia River and alcoves in the mouths of its tributaries. These mainstem rivers are outside the permit area and eulachon are unlikely to migrate upstream into the streams that occur in the permit area.

The effects of the take on the listed species, such as descaling, altered spawning activities, potential for mortality, etc.

Salmonids: Section 5.3.2, Impacts of the Taking on Salmon and Steelhead provide ESU-specific assessments of implementation of the HCP. Take resulting from habitat loss and other adverse effects, described below, is not expected to result in an adverse impact on the species' long-term persistence in the permit area for the following reasons:

- (A) Timber harvest activities will occur outside the RCAs. Implementation of the HCP will protect and enhance approximately 77,300 acres of forest in RCAs along 5,405 river and stream miles.
- (B) Road decommissioning and culvert replacement activities that will occur under the HCP will reduce road-related sedimentation across the permit area and remove existing barriers to improve instream habitat conditions and make additional upstream habitat accessible for the covered salmon.
- (C) Stream enhancement projects that will occur under the HCP will focus on restoring natural processes to create habitats that improve overall conditions for the covered species and other aquatic organisms in the permit area, allowing for immediate improvements to instream complexity, while the adjacent riparian forests are developing to provide long-term benefits.

While individual actions can affect the covered species, BMPs and conservation actions identified in Chapters 3 and 4, respectively, will minimize those effects on minor, localized changes that will be spread out across the permit area. To assess the overall impact of timber harvest on the covered salmon and steelhead, timber harvest modeling was used to predict the pace, scale, and amount of harvest over the course of the permit term. Detailed results of the watershed analysis, by Hydrologic Unit Code (HUC) 10, are presented in Appendix E, and briefly summarized below:

Oregon Coast Coho and Spring-run Chinook: The Oregon Coast coho ESU is made up of 56 independent and dependent populations, 13 of which have no stream miles in the permit area, and 14 populations that could be affected by harvest in their watershed (Appendix E). Most of these independent populations have less than 5% of their stream miles in the permit area while the Nehalem and Tillamook Bay have 49 and 28%, respectively of their stream miles in the permit area. The Nehalem Independent Population of Oregon Coast coho average percent of HUC 10 watersheds in clearcut and young forest conditions (0–10 years) in the permit area ranges from 6% in the Salmonberry River to 16% in the Upper Nehalem River. The Tillamook Bay Independent Population of Oregon Coast coho average percent of HUC 10 watersheds in clearcut and young forest conditions (0–10 years) in the permit area ranges from 5% in the Kilchis River and Tillamook River HUCs to 15% in the Trask River HUC. The distribution of clearcuts in the permit area, over the permit term, will not exceed 20% of the total forest cover for any HUC 10 in range of the Nehalem or the Tillamook Bay Independent Population at any point during the permit term.

Lower Columbia River Coho, Chinook, and Columbia River Chum: Lower Columbia River coho, Chinook, and Columbia River chum ESUs have minor overlap with the permit area (Chapter 2 and Appendix C). Average percent of HUC 10 watersheds in clearcut and young forest conditions (0–10 years) in the permit area ranges from 0% in the Salmon River HUC to 19% in the Big Creek HUC. The distribution of clearcuts in the permit area, across the permit term, will not exceed 20% of the total forest cover; therefore, upland harvest in the permit area is not likely to affect overall watershed process for any of the HUC 10s within the range of Lower Columbia River coho, Lower Columbia River Chinook, and Columbia River chum.

Upper Willamette River Spring Chinook and Winter Steelhead: Average percent of HUC 10 watersheds in clearcut and young forest conditions (0–10 years) in the permit area ranges from 0% in the Quartzville Creek – Green Peter Lake HUC to 21% in the Rickreall Creek – Willamette River HUC. While Rickreall Creek exceeds the 20% threshold, watershed effects are not expected as the permit area accounts for less than 1% of the overall acreage within this HUC. Therefore, upland harvest in the permit area is not likely to affect overall watershed process for any of the HUC 10s within the range of Upper Willamette River spring Chinook and winter steelhead.

Southern Oregon/Northern California Coasts Coho and Spring-run Chinook: Average percent of HUC 10 watersheds in clearcut and young forest conditions (0–10 years) in the permit area is expected to exceed 20% of the permit area in the following HUCs: Josephine Creek – Illinois River, West Fork Illinois, Hellgate Canyon – Rogue River, and Shady Cove – Rogue River HUCs; however, the permit area represents a small portion of the overall watershed for each of these. Therefore, while clearcuts in the permit area for these HUCs will exceed a 20% average of the total forest cover over the course of the permit term, the clearcut acreage in the permit area represents a small portion of the overall HUC 10 (Appendix E). Consequently, upland harvest in the permit area is not likely to affect overall watershed process for any of the HUC 10s within the range of the Southern Oregon/Northern California Coast coho. *Eulachon:* Eulachon occur primarily in the mainstem Columbia River and alcoves in the mouths of its tributaries. These mainstem rivers are outside the permit area and eulachon are unlikely to migrate upstream into the streams that occur in the permit area. Direct effects on this species would be unlikely.

B. The anticipated impact of the proposed activity on the **habitat of the species and the **likelihood of restoration** of the affected habitat.**

Please describe what effects your activity may have on the species habitat, including anticipated: physical damage (whether temporary or permanent) to habitat (e.g., sedimentation, dredging, etc.); impacts to prey species (fish or invertebrate death, injury, or displacement); barriers to movement through or within constricted or important areas; and any other anticipated impacts to habitat (e.g., chemical, sedimentation, thermal).

1. Fish Species

Salmonids: The covered activities described in Chapter 3 could result in the following categories of stressors on habitat for the covered salmonid species, each of which is described in more detail under Section 5.3.1, *Sources and Types of Effects* in the HCP.

- (A) **Reduce large wood recruitment.** The construction of new roads, cable corridors, and quarries will result in minor reductions in the amount of wood available for recruitment at some locations in the permit area. This minor reduction in available large wood and the habitat alterations associated with removal of wood for roads, cable corridors, and quarries will be unlikely to result in take. In addition, the implementation of conservation actions in the RCAs will result in the development of larger trees over time, leading to higher quality wood recruitment that will deliver instream structure into the aquatic system throughout the permit term.
- (B) **Reduce water quality and quantity.** Reduction in function or quality of habitat as a result of covered activities.

- i. Water Temperature: Harvest activities adjacent to (or upstream from) fish-bearing streams can increase summer stream temperatures through reduction of shade that results in increased solar radiation reaching the water's surface. Stream shading and instream temperature protection will be maintained by retaining vegetation in riparian areas during adjacent harvest activities. RCA widths vary by stream type. All fish-bearing streams and large and medium non-fish-bearing perennial streams have a 120-foot minimum buffer (horizontal distance), a size thought adequate to prevent riparian shade loss that would cause stream temperatures to increase, and which would extend 120 feet (horizontal distance) from the aquatic zone for the first 500 feet upstream of the end of fish use. Upstream of the 500-foot process protection zone (PPZ), the buffer will be 35 feet (horizontal distance) from the aquatic zone.
- ii. Suspended Sediment: Forestry activities, if not managed properly, can increase the input of fine sediment into the aquatic system, which can degrade spawning areas, reduce pool refuge habitat, decrease winter refuge areas for juveniles, abrade gills, and impede feeding visibility. There are 88.6 miles of existing roads in the RCAs. Of that, 7 miles of road are within 35 feet of a waterbody, the remaining 81.6 miles occur between 35 and 120 feet of a waterbody. Ongoing use and maintenance of logging roads in the permit area will be a continual potential source of sedimentation. Similarly, an increase in the volume of truck traffic during timber harvest activities could increase the delivery of fine sediment to adjacent streams. Culvert replacement, installation, and removal has the potential to temporarily increase downstream sedimentation. New logging roads and recreational trails allow easy public access to areas that were previously less accessible. Increased human activity in and around streams could affect stream bank stability. The maintenance and/or construction of new boat ramps or trail segments may occur in RCAs.
- iii. Chemical Contaminants: If not sited properly forest roads can direct and increase the runoff of soils into waterbodies, increasing sedimentation and exposure to potential chemical spills (Gucinski et al. 2001). Stormwater runoff from impervious surfaces delivers a wide variety of pollutants to aquatic ecosystems, such as metals (e.g., copper and zinc), petroleum-related compounds (polynuclear aromatic hydrocarbons), along with the sediment washed off the road surface (Driscoll et al. 1990, Buckler and Granato 1999, Colman et al. 2001, Kayhanian et al. 2003). Pesticides and metals can be toxic to fish at high concentrations and have been shown in the laboratory to affect fish behavior even at very low concentrations. Accidental introduction of contaminants associated with timber harvest activities (e.g., fuel spills from timber harvest equipment) could result in mortality or inhibit normal behaviors of covered species that encounter these contaminants. The introduction of contaminants associated with maintenance-related activities would have similar effects.
- iv. Water Quantity: Forests influence water yield through the interception of precipitation and transpiration by trees. When a forest is harvested, water that is normally transpired by trees becomes available for streamflow. Increased coarse sediment inputs to streams following logging can also increase the effect of low flows by shallowing and widening stream channels (Hicks et al. 1991). Post-harvest peak streamflows after fall and spring storms generally increase; however, flows associated with large mid-winter events are generally unaffected as soils are already saturated regardless of cover type (Brown n.d.). Once forests are 10+ years old and regrowing rapidly, they transpire more than three times the amount of water as mature forests (Moore et al. 2004). This increased transpiration can further exacerbate summer low flows, reducing available habitat for covered salmon and steelhead. Peak stream flows can be exacerbated by road-related runoff.

Eulachon: Eulachon occur primarily in the mainstem Columbia River and alcoves in the mouths of its tributaries. These mainstem rivers are outside the permit area and eulachon are unlikely to migrate upstream into the streams that occur in the permit area. Critical habitat has not been designated for eulachon within the permit area; therefore, none will be affected. Direct effects on this species would be unlikely. However, they could be affected by changes in water quality and quantity of tributaries of the Columbia River. As described in Section 5.3, these changes would be minor due to implementation of the conservation actions

C. **The steps that will be taken to avoid, minimize, mitigate, and monitor such impacts:** Section 4.6, *Biological Goals and Objectives* provides species-specific objectives for the Western Oregon State Forests HCP (see Table 4-1). Section 4.7, *Conservation Actions* provides a summary of relationships between biological goals and objectives and conservation actions (see Table 4-2). Species-specific minimization measures are described below. Monitoring and Adaptive Management is described in Chapter 6.

1. Fish Species

Salmonids: The conservation actions described in Chapter 4, *Conservation Strategy*, are expected to minimize effects on covered species and offset the impact of the taking by maintaining and improving the natural processes necessary for salmon spawning and rearing habitat in the permit area. The HCP is expected to have both short- and long-term benefits to the covered salmon and steelhead by:

- (A) Establishing a protective riparian strategy through RCAs adjacent to fish- and non-fish-bearing streams to protect riparian forests during and following harvest activities and contribute to the long-term development of large wood to benefit instream habitat over time.
- (B) Promoting the development of older forests within RCAs and upland areas within HCAs to improve instream habitat quality.
- (C) Limiting the construction of new roads in RCAs and having BMPs in place for road and trail management activities will limit runoff and sediment inputs.
- (D) Implementing stream enhancement and restoration projects to benefit habitat for the covered salmon at key locations.

The monitoring program described in Chapter 6, *Monitoring and Adaptive Management*, includes ODF's commitment to document trends in habitat conditions across the permit area to verify that the biological goals and objectives are being met. The results of the monitoring program will provide documentation that the intended benefits to the covered salmon and steelhead habitat are being realized. Should monitoring results indicate that biological objectives are not being realized, ODF will implement the adaptive management process described to rectify deficiencies.

While the covered activities could have minor, localized effects on critical habitat, implementation of the conservation actions identified in Chapter 4, and described above, are expected to protect the physical and biological features that support the life history requirements of for Oregon Coast coho, Lower Columbia River Chinook, Lower Columbia River Chinook, Upper Willamette River spring Chinook, and Upper Willamette River winter steelhead in the permit area and would be unlikely to destroy or adversely modify critical habitat. Eulachon: Eulachon are likely to have minimal occurrence in the permit area. With implementation of the HCP, streams that feed into eulachon habitat will be protected to offset effects associated with timber harvest and protect against climate change. This ever-improving condition of streams and covered species habitat in the permit area will therefore minimize effects on eulachon and fully offset the impact of the taking.

D. The alternative actions to such taking that were considered and the reasons why those alternatives are not being used.

Chapter 10, *Alternatives to Take* provides The Habitat Conservation Planning and Incidental Take Permit Processing Handbook (U.S. Fish and Wildlife Service and National Marine Fisheries Service 2016) identifies two alternatives commonly used in HCPs.

- Any specific alternative that would reduce take below levels anticipated for the proposed project.
- An alternative that would avoid take and, therefore, not require a permit from USFWS or NMFS.

The preferred and proposed approach is described in all of the previous chapters of this HCP. This proposed approach represents ODF's best attempt to avoid, minimize, and mitigate take of the covered species while allowing ODF to conduct on-going and planned forest management activities. In accordance with the ESA, this chapter discusses alternatives that were considered but not selected and the reasons those alternatives were not selected for inclusion in the HCP.

Note that the alternatives described in this chapter are different than the alternatives described in the Environmental Impact Statement (EIS) that accompanies this HCP. The EIS alternatives serve a broader purpose than the alternatives here, which are narrowly focused on alternatives that may eliminate or reduce take of one or more of the covered species. To distinguish the alternatives here from the EIS alternatives, alternatives in the HCP are called alternatives to take.

E. A list of all sources of data used in preparation of the plan, including reference reports, environmental assessments and impact statements, and personal communications with recognized experts on the species or activity who may have access to data not published in current literature. See attached multi-species HCP and associated citations and appendices.

Send applications for incidental take of all species:

Email: PR_ESA_incidentaltakepermits@noaa.gov

Chief, Endangered Species Division
National Marine Fisheries Service, F/PR3/PR2
1315 East-West Highway
Silver Spring, Maryland 20910 Phone: 301-713-1401
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Web Site: <https://www.fisheries.noaa.gov/about/office-protected-resources>



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Dr. Kim Kratz
February 8, 2022

Certification Statement

I hereby certify that the foregoing information is complete, true, and correct to the best of my knowledge and belief. I understand that this information is submitted for the purpose of obtaining a permit under the Endangered Species Act, as amended, and regulations promulgated thereunder, and that any false statement may subject me to the criminal penalties of 18 U.S.C § 1001, or to penalties under the Act.

Sincerely,

Mr. Calvin Mukumoto
Oregon Department of Forestry
503-945-7200
cal.t.mukumoto@odf.oregon.gov

Enclosures:

Public Draft Western Oregon State Forests Habitat Conservation Plan