Designation of Critical Habitat for Lower Columbia River Coho Salmon and Puget Sound Steelhead

DRAFT Section 4(b)(2) Report

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Prepared by NMFS Protected Resources Division
1201 NE Lloyd Blvd., Suite 1100, Portland, Oregon 97232

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This report contains NOAA Fisheries, Northwest Region's recommendations for designating critical habitat under section 4 of the Endangered Species Act (ESA) for two Distinct Population Segments (DPS)[1] listed as threatened species under the ESA: lower Columbia River coho salmon (70 FR 37160, June 28, 2005) and Puget Sound steelhead (72 FR 26722, May 11, 2007). It describes the methods used, process followed, and conclusions reached for each step leading to the proposed critical habitat designation.

I. STATUTE AND REGULATIONS

We determined which areas to recommend as critical habitat for the lower Columbia River coho and Puget Sound steelhead DPSs consistent with statutory requirements and agency regulations, which are summarized below.

Findings and Purposes of the Act Emphasize Habitat Conservation

In section 2(a) of the ESA, "Findings," Congress declared that:

> *. . . various species of fish, wildlife and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation. . .*

Section 2(b) of the ESA sets forth the purposes of the Act, beginning with habitat protection:

> *The purposes of this chapter are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.*

"Critical Habitat" Is Specifically Defined

Section 3(5) of the ESA defines critical habitat in some detail.

> *(5)(A) The term "critical habitat'' for a threatened or endangered species means –*
>
> *(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and*
>
> *(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this act, upon a determination by the Secretary that such areas are essential for the conservation of the species.*

[1] Under the ESA, NOAA Fisheries can list species, subspecies or distinct population segments (DPS). For Pacific salmon such as LCR coho, NOAA Fisheries has adopted a policy that refers to a DPS as an "Evolutionarily Significant Unit". However, in this report we denote both as DPSs so as not to confuse the reader.

(B) Critical habitat may be established for those species now listed as threatened or endangered species for which no critical habitat has heretofore been established as set forth in subparagraph (A) of this paragraph.

(C) Except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.

"Conservation" Is Specifically Defined

Section 3(3) of the Act defines conservation:

> *(3) The terms "conserve", "conserving", and "conservation" mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.*

Certain Military Lands Are Precluded From Designation

In 2003 Congress amended section 4(a)(3)(B)(i) of the ESA to limit the designation of land controlled by the Department of Defense (National Defense Authorization Act, P.L. No. 108-136):

> *The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.*

Specific Deadlines Limit the Time and Information Available for Making Designations

Section 4(a)(3) requires us to make critical habitat designations concurrently with the listing determination, to the maximum extent prudent and determinable:

> (3) The Secretary, by regulation promulgated in accordance with subsection (b) of this section and to the maximum extent prudent and determinable -
>
> (A) shall, concurrently with making a determination under paragraph (1) that a species is an endangered species or a threatened species, designate any habitat of such species which is then considered to be critical habitat

The time for designating critical habitat may be extended pursuant to section 4(b)(6)(C), but not by more than one additional year:

> (C) A final regulation designating critical habitat of an endangered species or a threatened species shall be published concurrently with the final regulation implementing the

determination that such species is endangered or threatened, unless the Secretary deems that -

(i) it is essential to the conservation of such species that the regulation implementing such determination be promptly published; or

(ii) critical habitat of such species is not then determinable, in which case the Secretary, with respect to the proposed regulation to designate such habitat, may extend the one-year period specified in subparagraph (A) by not more than one additional year, but not later than the close of such additional year the Secretary must publish a final regulation, based on such data as may be available at that time, designating, to the maximum extent prudent, such habitat.

Impacts of Designation Must Be Considered and Areas May Be Excluded

Specific areas that fall within the definition of critical habitat are not automatically designated as critical habitat. Section 4(b)(2) of the ESA requires the Secretary to first consider the impact of designation and permits the Secretary to exclude areas from designation under certain circumstances. Exclusion is not required for any areas.

(2) The Secretary shall designate critical habitat, and make revisions thereto, under subsection (a)(3) of this section on the basis of the best scientific data available and after taking into consideration the economic impact, the impact to national security and any other relevant impact, of specifying any particular area as critical habitat. The Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned.

Federal Agencies Must Ensure Their Actions Are Not Likely To Destroy or Adversely Modify Critical Habitat

Once critical habitat is designated, section 7(a)(2) provides that federal agencies must ensure any actions they authorize, fund or carry out are not likely to result in the destruction or adverse modification of designated critical habitat. Section 7 also requires federal agencies to ensure such actions do not jeopardize the continued existence of the listed species:

(2) Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.

Authority to Designate Critical Habitat Is Delegated To NOAA Fisheries

The authority to designate critical habitat, including the authority to consider the impacts of designation, the authority to weigh those impacts against the benefit of designation, and the authority to exclude particular areas, has been delegated to the Assistant Administrator of the National Marine Fisheries Service (Department Organization Order 10-15 (5/24/04). NOAA Organization Handbook, Transmittal #34, May 31, 1993).

Joint Regulations Govern Designation

Joint regulations of the Services (50 CFR § 424.12) elaborate on those physical and biological features essential to conservation, and set criteria for the delineation of critical habitat.

> *(b) In determining what areas are critical habitat, the Secretary shall consider those physical and biological features that are essential to the conservation of a given species and that may require special management considerations or protection. Such requirements include, but are not limited to, the following:*
>
> *(1) Space for individual and population growth, and for normal behavior;*
>
> *(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;*
>
> *(3) Cover or shelter;*
>
> *(4) Sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and generally;*
>
> *(5) Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.*
>
> *When considering the designation of critical habitat, the Secretary shall focus on the principal biological or physical constituent elements within the defined area that are essential to the conservation of the species. Known primary constituent elements shall be listed with the critical habitat description. Primary constituent elements may include, but are not limited to, the following: roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dry land, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.*
>
> *(c) Each critical habitat area will be shown on a map, with more-detailed information discussed in the preamble of the rulemaking documents published in the Federal Register and made available from the lead field office of the Service responsible for such designation. Textual information may be included for purposes of clarifying or refining the location and boundaries of each area or to explain the exclusion of sites (e.g., paved roads, buildings) within the mapped area. Each area will be referenced to the State(s), county(ies), or other local government units within which all or part of the critical habitat is located. Unless otherwise indicated within the critical habitat descriptions, the names of the State(s) and county(ies) are provided for informational purposes only and do not constitute the boundaries of the area. Ephemeral reference points (e.g., trees, sand bars) shall not be used in any textual description used to clarify or refine the boundaries of critical habitat."*

The regulations confine designation to areas within United States jurisdiction:

(h) Critical habitat shall not be designated within foreign countries or in other areas outside of United States jurisdiction.

The regulations define "special management considerations or protection" in 50 CFR § 424.02.

(j) Special management considerations or protection means any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.

Approach to Designation

Based on this statutory and regulatory direction, our approach to designation included the following steps:

1. Identify specific areas eligible for critical habitat designation
   - Identify areas meeting the definition of critical habitat
   - Identify military areas ineligible for designation

2. Identity and consider impacts
   - Determine the impacts of designation

3. Determine whether to exercise the discretion to exclude
   - Determine the benefits of designation
   - Balance Benefits of Designation against Benefits of Exclusion and recommend exclusions if appropriate
   - Determine whether the recommended exclusions will result in extinction of the species

Section 4(b)(2) of the ESA requires us to designate critical habitat for threatened and endangered species "on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat." This section grants the Secretary discretion to exclude any area from critical habitat if he determines "the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat." In adopting this provision, Congress explained that, [t]he consideration and weight given to any particular impact is completely within the Secretary's discretion." H.R. No.95-1625, at 16-17 (1978). The Secretary's discretion to exclude is limited, as he may not exclude areas that "will result in the extinction of the species." We have discretion in whether and how we balance benefits. Moreover, the statute does not require that any area be excluded. Consistent with our approach in the 2005 salmon and steelhead critical habitat designations, we recommend certain exclusions. The discussion below and in the appendices describes how the recommendations are informed by various policy considerations.

II. IDENTIFY SPECIFIC AREAS ELIGIBLE FOR CRITICAL HABITAT DESIGNATION

Identify Areas Meeting the Definition of Critical Habitat

Areas that meet the section 3(5)(A) definition of critical habitat include specific areas: 1) within the geographical area occupied by the species at the time of listing, that contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and 2) outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation. Pursuant to section 3(5)(A), our first task was to determine "the geographical area occupied by the species at the time of listing." In a separate report, we have documented our conclusions regarding which specific areas meet the definition of critical habitat and may therefore be eligible for designation (see draft Biological Report, NMFS 2012a).

Geographical Area Occupied by the Species

Agency regulations at 50 CFR 223.102 define the two DPSs under consideration as follows:

(1) Lower Columbia River coho—"…including all naturally spawned populations of coho salmon in the Columbia River and its tributaries in Washington and Oregon, from the mouth of the Columbia up to and including the Big White Salmon and Hood Rivers, and includes the Willamette River to Willamette Falls, Oregon, as well as twenty-five artificial propagation programs…" and

(2) Puget Sound steelhead—"…including all naturally spawned anadromous O. mykiss (steelhead) populations, from streams in the river basins of the Strait of Juan de Fuca, Puget Sound, and Hood Canal, Washington, bounded to the west by the Elwha River (inclusive) and to the north by the Nooksack River and Dakota Creek (inclusive), as well as the Green River natural and Hamma Hamma winter-run steelhead hatchery stocks."

Both descriptions emphasize the freshwater range of each DPS because we delineated salmon and steelhead DPSs based on spawning (or natal) areas.

Given these considerations, the freshwater geographical area occupied by the species includes:

(1) Lower Columbia River coho—in the lower Columbia River basin, the Columbia River mainstem from the Pacific Ocean upstream to the confluence of the Washougal and Sandy Rivers, East Fork Hood River, West Fork Hood River, Hood River, White Salmon River, Little White Salmon River, Wind River, Middle Columbia/Grays Creek, Middle Columbia/Eagle Creek, Salmon River, Zigzag River, Upper Sandy River, Middle Sandy River, Bull Run River, Washougal River, Columbia Gorge Tributaries, Lower Sandy River, Salmon Creek, Upper Lewis River, Muddy River, Swift Reservoir, Yale Reservoir, East Fork Lewis River, Lower Lewis River, Kalama River, Beaver Creek/Columbia River, Clatskanie River, Germany/Abernathy, Skamokawa/Elochoman, Plympton Creek, Headwaters Cowlitz River, Upper Cowlitz River, Cowlitz Valley Frontal, Upper Cispus River, Lower Cispus River, Tilton River, Riffe Reservoir, Jackson Prairie, North Fork Toutle River, Green River, South Fork Toutle River, East Willapa,

Coweeman, Youngs River, Big Creek, Grays Bay, Abernethy Creek, Collawash River, Upper Clackamas River, Oak Grove Fork Clackamas River, Middle Clackamas River, Eagle Creek, Lower Clackamas River, Johnson Creek, Scappoose Creek, and Columbia Slough/Willamette River.

(2) Puget Sound steelhead—in Puget Sound and the Strait of Juan de Fuca, Bellingham Bay, Samish River, Birch Bay, Upper North Fork Nooksack River, Middle Fork Nooksack River, South Fork Nooksack River, Lower North Fork Nooksack River, Nooksack River, Skagit River/Gorge Lake, Skagit River/Diobsud Creek, Cascade River, Skagit River/Illabot Creek, Baker River, Upper Sauk River, Upper Suiattle River, Lower Suiattle River, Lower Sauk River, Middle Skagit River/Finney Creek, Lower Skagit River/Nookachamps Creek, North Fork Stillaguamish River, South Fork Stillaguamish River, Lower Stillaguamish River, Tye And Beckler Rivers, Skykomish River Forks, Skykomish River/Wallace River, Sultan River, Skykomish River/Woods Creek, Middle Fork Snoqualmie River, Lower Snoqualmie River, Pilchuck River, Snohomish River, Cedar River, Lake Sammamish, Lake Washington, Sammamish River, Upper Green River, Middle Green River, Lower Green River, Upper White River, Lower White River, Carbon River, Upper Puyallup River, Lower Puyallup River, Mashel/Ohop, Lowland, Prairie1, Prairie2, Skokomish River, Lower West Hood Canal Frontal, Hamma Hamma River, Duckabush River, Dosewallips River, Big Quilcene River, Upper West Hood Canal Frontal, West Kitsap, Kennedy/Goldsborough, Puget, Prairie3, Puget Sound/East Passage, Chambers Creek, Port Ludlow/Chimacum Creek, Discovery Bay, Sequim Bay, Dungeness River, Port Angeles Harbor, and Elwha River.

Maps and tables depicting the location, extent, and other attributes of these stream reaches and watersheds are contained in the draft biological report (NMFS 2012a).

Both DPSs also occupy vast areas of the Pacific Ocean where they forage during their juvenile and subadult life phases before returning to spawn in their natal streams. The steelhead DPS also occupies marine waters in Puget Sound. As described further below, we could not identify "specific areas" within marine waters that meet the definition of critical habitat.

Physical or Biological Features Essential to Conservation

Agency regulations at 50 C.F.R. 424.12(b) interpret the statutory phrase "physical or biological features essential to the conservation of the species." The regulations state that these features include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species. The regulations further direct us to "focus on the principal biological or physical constituent elements . . . that are essential to the conservation of the species, and specify that these elements shall be the 'known primary constituent elements'." The regulations identify primary constituent elements (PCE) as including, but not being limited to: "roost sites, nesting grounds,

spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types."

For the 2005 critical habitat designations (70 FR 52630, September 2, 2005), NMFS biologists developed a list of physical and biological features relevant to determining whether occupied stream reaches within a watershed meet the ESA section (3)(5)(A) definition of "critical habitat," consistent with the implementing regulation at 50 CFR 424.12(b). Relying on the biology and life history of each species, we determined the physical or biological habitat features essential to their conservation. For the present rulemaking, we use the same features, which we identified in the advance notice of proposed rulemaking (76 FR 1392, January 10, 2011). These features include sites essential to support one or more life stages of the DPS (sites for spawning, rearing, migration and foraging). These sites in turn contain physical or biological features essential to the conservation of the DPS (for example, spawning gravels, water quality and quantity, side channels, forage species). Specific types of sites and the features associated with them (both of which are referred to as PCEs) include the following:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development.
2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
4. Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.
5. Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels.
6. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.

"Specific Areas" Within the Occupied Geographical Area Occupied by the Species

Freshwater Areas

After determining the geographical area occupied by each DPS, and the physical and biological features essential to their conservation, we next identified the specific areas within the geographical area occupied by the species that contain the essential features. We based our delineation of "specific areas" where these features are found on the biology and population

structure of the species, and the characteristics of the habitat it occupies. To delineate specific areas, we used standard watershed units, as mapped by the U.S. Geological Survey (USGS), designated by fifth field hydrologic unit codes, or HUC5s (this report refers to these HUC5s as "watersheds"). The USGS maps watersheds as polygons, bounding a drainage area from ridge-top to ridge-top, encompassing streams, riparian areas and uplands. Within the boundaries of any watershed, there are stream reaches not occupied by the species. Land areas within the watershed boundaries are also generally not "occupied" by the species (though certain areas such as flood plains or side channels may be occupied at some times of some years). We used the watershed boundaries as a basis for aggregating stream reaches, for purposes of delineating "specific" areas where the physical or biological features are found.

Within these HUC5 watersheds, we developed extensive information regarding the stream reaches occupied by lower Columbia River coho and Puget Sound steelhead using data compiled by state and tribal fisheries agencies in Oregon and Washington, as the best available information. We collected and verified these data and produced distribution maps at a scale of 1:24,000 using standard Geographic Information System (GIS) software. We also developed latitude-longitude identifiers for the end-points of each occupied stream reach.

Teams of federal biologists then examined each habitat area within a watershed to determine whether the stream reaches occupied by the species contained the physical or biological features previously identified as essential to conservation. The Teams also determined whether, consistent with the regulatory definition of "special management considerations or protection" (50 C.F.R. 402.02 (j)), there were "any methods or procedures useful in protecting physical and biological features." The Teams drew upon their first-hand knowledge of the areas and the physical or biological features as well as their experience in section 7 consultations. We asked them to determine whether there were actions occurring in those areas that may threaten the features, such that there would be any methods or procedures useful in protecting the features. The Teams identified and documented such activities for each area in tables contained in their report (NMFS 20012a).

Marine Areas

As in our 2005 designations (70 FR 52630, September 2, 2005), we identified estuary features essential to conservation. For streams and rivers that empty into marine areas, we include the associated river mouth/estuary as part of the HUC5 "specific area."

Also as in the 2005 designations, we identified certain prey species in nearshore and offshore marine waters (such as Pacific herring) as essential features, and concluded that some may require special management considerations or protection because they are commercially harvested. However, the abundance and location of prey species is highly variable, and we lack information about the DPSs' use of foraging sites in offshore waters that would allow us to identify specific areas in offshore marine waters where the essential habitat features are found. We did seek and consider new information to better inform our consideration, but continue to conclude that we lack sufficient information to designate critical habitat in offshore marine areas (see NMFS, 2012c).

We also considered marine areas in Puget Sound for steelhead but concluded that at this time the best available information suggests there are no areas that meet the definition of critical

habitat in the statute. In our 2005 rule (70 FR 52630, September 2, 2005), we designated critical habitat in nearshore areas for Puget Sound Chinook and Hood Canal summer-run chum salmon. However, steelhead move rapidly out of freshwater and into offshore marine areas, unlike Puget Sound Chinook and Hood Canal summer chum, making it difficult to identify specific foraging areas where the essential features are found. We therefore determined that for Puget Sound steelhead it is not possible to identify specific areas in the nearshore zone in Puget Sound.

Special Management Considerations or Protection

Specific areas meet the definition of critical habitat if they contain physical or biological features that "may require special management considerations or protection." Joint NMFS and USFWS regulations at 50 CFR §424.02(j) define "special management considerations or protection" to mean "any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species." We identified a number of activities that may affect the physical and biological features essential to these two DPSs such that special management considerations or protection may be required. Major categories of such activities include: (1) forestry; (2) grazing; (3) agriculture; (4) road building/maintenance; (5) channel modifications/diking; (6) urbanization; (7) sand and gravel mining; (8) mineral mining; (9) dams; (10) irrigation impoundments and withdrawals; (11) river, estuary, and ocean traffic; (12) wetland loss/removal; (13) beaver removal; (14) exotic/invasive species introductions. In addition to these, the harvest of salmonid prey species (e.g., herring, anchovy, and sardines) may present another potential habitat-related activity (Pacific Fishery Management Council 1999). All of these activities have PCE-related impacts via their alteration of one or more of the following: stream hydrology, flow and water-level modifications, fish passage, geomorphology and sediment transport, temperature, dissolved oxygen, vegetation, soils, nutrients and chemicals, physical habitat structure, and stream/estuarine/marine biota and forage (Spence *et al*. 1996, Pacific Fishery Management Council 1999).

Unoccupied Areas

Section 3(5)(A)(ii) of the ESA authorizes the designation of "specific areas outside the geographical area occupied at the time [the species] is listed" if these areas are essential for the conservation of the species. Regulations at 50 CFR 424.12(e) emphasize that the agency "shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species."

We asked the Teams of federal biologists whether there were any unoccupied areas within the historical range of the two DPSs that may be essential for conservation. The Puget Sound Team indicated there were unoccupied stream reaches in the upper Elwha River basin that were essential for the conservation of Puget Sound steelhead. The decommissioning of two longstanding dams in this basin began in the fall of 2011 and will allow steelhead and other salmonids access to approximately 45 miles (72 km) of habitat in the basin upstream (Washington Department of Fish and Wildlife 2011, Olympic National Park 2012). The Team noted the significant amount of spawning habitat that would be available in the Elwha following dam removal relative to other much smaller streams in the Strait of Juan de Fuca, as well as the high likelihood that these habitats will be able to support both summer- and winter-run life forms of

steelhead. Because the Strait represents a major HUC4 subbasin, and the Elwha provides adequate suitable habitat to support viable populations of both life history types, the CHART considered the Elwha essential for conservation of the DPS.

In other cases, the Teams did not have information available that would allow them to make a determination that unoccupied areas are essential for conservation. The Teams nevertheless identified one area they believe may be determined essential through future recovery planning efforts (i.e., habitat for coho above Condit Dam on the White Salmon River, Washington). We anticipate that ongoing recovery planning processes will develop additional information about the species' need for these or other areas unoccupied at the time of listing.

Military Areas Ineligible for Designation

Section 4(a)(3) of the ESA precludes the Secretary from designating military lands as critical habitat if those lands are subject to an Integrated Natural Resource Management Plan (INRMP) under the Sikes Act that the Secretary certifies in writing benefits the listed species. We consulted with the Department of Defense (DOD) and determined that three installations with INRMPs overlap with streams occupied by Puget Sound steelhead: (1) Naval Base Kitsap; (2) Naval Radio Station, Jim Creek; and (3) Joint Base Lewis-McChord (Army & Air Force). We did not identify any INRMPs or DOD installations within the range of lower Columbia River coho.

We identified habitat meeting the statutory definition of critical habitat at each of the above installations and reviewed the INRMPs, as well as other information available regarding the management of these military lands. Our preliminary review indicates that each of these INRMPs address Puget Sound steelhead habitat, and all contain measures that provide benefits to this DPS (see Appendix A). Examples of the types of benefits include actions that eliminate fish passage barriers, control erosion, protect riparian zones, increase stream habitat complexity, and monitor listed species and their habitats. As a result, we are not proposing to designate critical habitat in areas subject to the INRMPs identified above.

III. IDENTIFY AND CONSIDER IMPACTS OF DESIGNATION

Section 4(b)(2) of the ESA requires us to use the best scientific data available in designating critical habitat. It also requires that before we designate any "particular" area, we must consider the economic impact, impact on national security, and any other relevant impact.

Identify "Particular" Areas

Section 3(5) defines critical habitat as "specific areas," while section 4(b)(2) requires the agency to consider certain factors before designating any "particular area." Depending on the biology of the species, the characteristics of its habitat, and the nature of the impacts of designation, "specific" areas might be different from, or the same as, "particular" areas. For this designation, we analyzed two types of "particular" areas. Where we considered economic impacts, and weighed the economic benefits of exclusion against the conservation benefits of designation, we used the same biologically-based "specific" areas we had identified under section 3(5)(A). Specifically, these particular areas were occupied freshwater and estuarine areas within individual HUC5 watersheds. This approach allowed us to most effectively consider the conservation value

of the different areas when balancing conservation benefits of designation against economic benefits of exclusion. Where we considered impacts on Indian lands and lands subject to approved Habitat Conservation Plans (HCPs), however, we instead used a delineation of "particular" areas based on ownership or control of the area. Specifically, these particular areas consisted of occupied freshwater and estuarine areas that overlap with Indian lands and HCP lands. This approach allowed us to consider impacts and benefits associated with land ownership and management by Indian tribes and HCP partners.

The use of two different types of areas required us to account for overlapping boundaries (that is, ownership may span many watersheds and watersheds may have mixed ownership). The order in which we conducted the 4(b)(2) balancing became important because of this overlap. To ensure we were not double-counting the benefits of exclusion, we first considered exclusion of particular areas based on land ownership and determined which areas to recommend for exclusion. We then considered economic exclusion of particular areas based on watersheds, with the economic impact for each watershed adjusted based on whether a given type of ownership had already been recommended for exclusion.

Determine Impacts of Designation

Section 4(b)(2) of the ESA provides that the Secretary shall consider "the economic impact, impact on national security, and any other relevant impact of specifying any particular area as critical habitat." The primary impact of a critical habitat designation stems from the requirement under section 7(a)(2) of the ESA that Federal agencies ensure their actions are not likely to result in the destruction or adverse modification of critical habitat. Determining this impact is complicated by the fact that section 7(a)(2) contains the overlapping requirement that Federal agencies must ensure their actions are not likely to jeopardize the species' continued existence. The true impact of designation is the extent to which Federal agencies modify their actions to ensure their actions are not likely to destroy or adversely modify the critical habitat of the species, beyond any modifications they would make because of listing and the jeopardy requirement. Additional impacts of designation include state and local protections that may be triggered as a result of the designation.

In determining the impacts of designation, we predicted the incremental change in Federal agency actions as a result of critical habitat designation and the adverse modification prohibition, beyond the changes predicted to occur as a result of listing and the jeopardy provision. In August 2012 the U.S. Fish and Wildlife Service and we published a proposed rule to amend our joint regulations at 50 CFR 424.19 to make clear that in considering impacts of designation as required by Section 4(b)(2) we would consider the incremental impacts (77 FR 51503, August 24, 2012). This approach is in contrast to our 2005 critical habitat designations for salmon and steelhead (70 FR 52630, September 2, 2005) and for Southern Resident killer whales (71 FR 69054, November 29, 2006), where we considered the "coextensive" impact of designation. The consideration of co-extensive impacts was in accordance with a Tenth Circuit Court decision (New Mexico Cattle Growers Association v. U.S. Fish and Wildlife Service, 248 F.3d 1277 (10th Cir. 2001)). More recently, several courts (including the 9th Circuit Court of Appeals) have approved an approach that considers the incremental impact of designation. The *Federal Register* Notice announcing the proposed policy on considering impacts of designation describes and discusses these court cases

and the Solicitor Opinion explaining this approach. *Arizona Cattlegrowers' Ass'n v. Salazar*, 606 F3d 1160, 1172-74 (9th Cir. 2010), cert. denied, 131 S. Ct. 1471, 179 L. Ed. 2d 300 (2011); *Homebuilders Ass'n v. FWS*, 616 F3d 983, 991093 (9th Cir. 2010) cert. denied, 131 S. Ct. 1475, 179 L. Ed. 2d 301 (2011); M-3706 The Secretary's Authority to Exclude Areas from Critical Habitat Designation Under 4(b)(2) of the Endangered Species Act (Oct. 3, 2008) (DOI 2008)). In more recent critical habitat designations, both NMFS and the U.S. Fish and Wildlife Service have considered the incremental impact of critical habitat designation (for example, NMFS' designation of critical habitat for the Southern DPS of green sturgeon (74 FR 52300, October 9, 2009) and the Southern DPS of Pacific eulachon (76 FR 65324, October 20, 2011), and the U.S. Fish and Wildlife's designation of critical habitat for the Oregon chub (75 FR 11031, March 10, 2010)). Consistent with our proposed regulatory amendments, the more recent court cases, and more recent agency practice, we estimated the incremental impacts of designation, beyond the impacts that would result from the listing and jeopardy provision. In addition, because these proposed designations almost completely overlap our previous salmonid critical habitat designations, and the essential features are the same, we estimated only the incremental impacts of designation beyond the impacts already imposed by those prior designations.

To determine the impact of designation, we examined what the state of the world would be with the designation of critical habitat for the lower Columbia River coho and Puget Sound steelhead DPSs and compared it to the state of the world without the designations. The "without critical habitat" scenario represents the baseline for the analysis. It includes process requirements and habitat protections already afforded these DPSs under their Federal listing or under other Federal, state, and local regulations. Such regulations include protections afforded to habitat supporting these two DPSs from other co-occurring ESA listings and critical habitat designations, in particular listings/designations for West Coast salmon and steelhead (70 FR 52630, September 2, 2005). In the case of lower Columbia River coho, the proposed designation overlaps with existing designations for lower Columbia River steelhead and Chinook, and Columbia River chum, as well as several DPSs that spawn upstream in the middle and upper Columbia and Snake Rivers. In the case of Puget Sound steelhead, the proposed designation overlaps with existing designations for Puget Sound Chinook and Hood Canal summer-run chum. The "with critical habitat" scenario describes the incremental impacts associated specifically with the designation of critical habitat for lower Columbia River coho and Puget Sound steelhead. The primary impacts of critical habitat designation we found were: (1) the costs associated with additional administrative effort of including a critical habitat analysis in section 7 consultations for these two DPSs, (2) project modifications required solely to avoid destruction or adverse modification of their critical habitat, (3) potential impacts on national security if particular areas were designated critical habitat for Puget Sound steelhead, and (4) the possible harm to our working relationship with Indian tribes and some HCP landowners. There are no military areas eligible for designation that overlap with critical habitat areas, so we did not consider impacts to national security. Because we have chosen to balance benefits and consider exclusions, we consider these impacts in more detail below in the section devoted to each type of impact.

Economic Impacts

Our economic analysis sought to determine the impacts on land uses and activities from the proposed designation of critical habitat that are above and beyond – or incremental to – those "baseline" impacts due to existing or planned conservation efforts being undertaken due to other Federal, State, and local regulations or guidelines (NMFS, 2012b). Other Federal agencies, as well as State and local governments, may also seek to protect the natural resources under their jurisdiction. If compliance with the Clean Water Act or State environmental quality laws, for example, protects habitat for the species, such protective efforts are considered to be baseline protections and costs associated with these efforts are not quantified as impacts of critical habitat designation.

When critical habitat is designated, section 7 requires Federal agencies to ensure that their actions will not result in the destruction or adverse modification of critical habitat (in addition to ensuring that the actions are not likely to jeopardize the continued existence of the species). The added administrative costs of considering critical habitat in section 7 consultations and the additional impacts of implementing project modifications to protect critical habitat are the direct result of the designation of critical habitat. These costs are not in the baseline, and are considered incremental impacts of the rulemaking.

Incremental economic impacts may include the direct costs associated with additional effort for future consultations, reinitiated consultations, new consultations occurring specifically because of the designation, and additional project modifications that would not have been required to avoid jeopardizing the continued existence of the species. Additionally, incremental economic impacts may include indirect impacts resulting from reaction to the potential designation of critical habitat (e.g., developing habitat conservation plans (HCPs) in an effort to avoid designation of critical habitat), triggering of additional requirements under State or local laws intended to protect sensitive habitat, and uncertainty and perceptional effects on markets.

To evaluate the economic impact of critical habitat we first examined our voluminous section 7 consultation record for West Coast salmon and steelhead. That record includes consultations on habitat-modifying Federal actions both where critical habitat has been designated and where it has not. As further explained in the supporting economic report (NMFS 2012b), to quantify the economic impact of designation, we employed the following three steps:

(1) Define the geographic study area for the analysis, and identify the units of analysis (the "particular areas"). In this case, we defined HUC5 watersheds that encompass occupied stream reaches as the study area.

(2) Identify potentially affected economic activities and determine how management costs may increase due to the designation of critical habitat for lower Columbia River coho and Puget Sound steelhead, both in terms of project administration and project modification.

(3) Estimate the economic impacts associated with these changes in management.

We estimated a total annualized incremental cost of approximately $357,815 for designating all specific areas as critical habitat for lower Columbia River coho. The greatest costs are associated with transportation, water supply, and in-stream work activities (see NMFS 2012b for more details). The Columbia Slough/Willamette River HUC5 watershed had the largest estimated annual impacts ($54,000) while the Jackson Prairie HUC5 watershed had the lowest with zero estimated annual impacts (NMFS 2012b).

For Puget Sound steelhead, we estimated a total annualized incremental administrative cost of approximately $460,924 for designating all specific areas as critical habitat. The greatest costs are associated with transportation and in-stream work activities (see NMFS 2012b for more details). Several watersheds located throughout the range of the DPS had zero estimated annual impacts, while the Lake Washington HUC5 watershed had the largest estimated annual impacts ($103,000) (NMFS 2012b).

Other Relevant Impacts - Impacts to Tribal Sovereignty and Self-Governance

Throughout the course of preparing the proposed designation, we consulted with affected Indian tribes to determine the impact of critical habitat designation on tribes. Several tribes responded to our ANPR and all expressed a view that critical habitat designation would have a negative impact on tribal sovereignty and tribal self-governance. This response was similar to the responses we have received in designating critical habitat for other salmon and steelhead species in 2005 (70 FR 52630, September, 2, 2005). The longstanding and distinctive relationship between the federal and tribal Governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the federal government. This relationship has given rise to a special federal trust responsibility with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities, lands have been retained by Indian Tribes or have been set aside for tribal use. These lands are managed by Indian Tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

Tribal governments have a unique status with respect to salmon and steelhead in the Pacific Northwest, where they are co-managers of these resources throughout the region. The co-manager relationship crosses tribal, federal, and state boundaries, and addresses all aspects of the species' life cycle. The positive working relationship between the federal government and tribes can be seen in federal-tribal participation within the *U.S. v. Oregon* and *U.S. v. Washington* framework and the participation of tribes on interstate (Pacific Fisheries Management Council) and international (Pacific Salmon Commission) management bodies. Additionally, there are innumerable local and regional forums and planning efforts in which the tribes are engaged with the federal government (NMFS 2005c provides a detailed list of activities and forums). These activities result in several benefits to the salmon species, by ensuring that habitat priorities are identified and addressed, that hatchery reforms are implemented, and that harvest does not preclude recovery. The participation of the tribes in these activities is crucial to the management and recovery of the listed species.

Our consultation with the tribes indicates that they view the designation of Indian lands as an unwanted intrusion into tribal self-governance, compromising the government-to-government relationship that is essential to achieving our mutual goal of conserving threatened and endangered salmon and steelhead. Further, the tribes indicate that their participation in existing co-manager processes will be compromised by the designation of their lands as they have limited staff and resources.

Based on this background, we concluded that the designation of Indian lands would have a negative impact on the longstanding unique relationship between the tribes and the federal government and have a corresponding negative impact on salmon protection and management. We considered these impacts to be relevant to the section 4(b)(2) consideration, consistent with recent case law addressing the designation of critical habitat on tribal lands. "It is certainly reasonable to consider a positive working relationship relevant, particularly when the relationship results in the implementation of beneficial natural resource programs, including species preservation." *Center for Biologicial Diversity et. al. v. Norton*, 240 F. Supp. 2d 1090, 1105); *Douglas County v.Babbitt* 48 F3d 1495, 1507 (1995)(defining "relevant" as impacts consistent with the purposes of the Act).

Other Relevant Impacts - Impacts to Landowners With Contractual Commitments to Conservation

Section 10 of the ESA provides an opportunity for landowners to obtain an incidental take permit by developing and implementing a Habitat Conservation Plan (HCP). The HCP must specify the impact likely to result from take, what steps the applicant will take to minimize and mitigate such impacts, and the funding available to implement such steps. The applicant must have considered alternative actions and explained why other alternatives are not being pursued, and we may require additional actions necessary or appropriate for the purposes of the plan. Before an HCP can be finalized, we must conclude that any take associated with implementing the plan will be incidental, that the impact of such take will be minimized and mitigated, that the plan is adequately funded, and that the take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The HCP undergoes environmental analysis under the National Environmental Policy Act and we conduct a section 7 consultation with ourselves to ensure granting the permit is not likely to jeopardize the continued existence of the species or destroy or adversely modify designated critical habitat.

Designation of critical habitat on HCP-covered lands may affect activities that are initiated by the landowner (such as when the landowner needs a federal permit to conduct instream work) or that are initiated by a federal agency and have no direct involvement by the landowner (such as federal funding of construction on a county road). For activities initiated by the landowner, although the section 7 applies only to federal actions, the requirement to avoid adverse modification of critical habitat operates as a requirement imposed on the landowner. For example, when a landowner needs a permit from the U.S. Army Corps of Engineers to armor a streambank, it is the landowner, not the Corps, who will bear any cost of design changes that are required to avoid adversely modifying the critical habitat.

The designation of critical habitat may also have impacts that are unrelated to section 7's requirements. For example, state environmental laws may contain provisions that are triggered if a state-regulated activity occurs in federally-designated critical habitat. Another possibility is that critical habitat designation could have "stigma" effects, or impacts on the economic value of private land that are not attributable to any direct restrictions on the use of the land.

Because of these potential impacts, landowners often are opposed to designation of their land as critical habitat. This opposition is well-documented in the popular press. In addition, during our previous process to designate critical habitat for salmon and steelhead, many commenters expressed the view that designation of lands covered by HCPs may harm our ongoing relationship with landowners (60 FR 52630, September 2, 2005). The comments of three landowners with HCPs at the time of the 2005 designations provided evidence that exclusion was likely to enhance our relationship with these landowners, which in turn would promote our ability to work effectively together to implement the HCP. Another landowner with a current HCP welcomed designation during our 2005 rulemaking because it would reinforce the importance of the area. Other landowners with HCPs were silent regarding the impact of designation on their land. Based on this mix of comments, we concluded in 2005 that we could not draw a conclusion that landowners with HCPs universally view designation of critical habitat as interfering with our relationship. We could draw that conclusion only with respect to the landowners who raised concerns.

Accordingly, we contacted the HCP landowners whose lands were excluded in our 2005 designations (Washington Department of Natural Resources, Green Diamond Resources Company, and West Fork Timber Company) to discuss the critical habitat designations for lower Columbia River coho and Puget Sound steelhead. We also contacted the following landowners with HCPs that were completed/authorized after our 2005 designations: Washington Department of Natural Resources (Forest Practices HCP); City of Kent (Water Supply HCP); City of Portland (Water Supply HCP); and J.L. Storedahl and Sons (Gravel Mining HCP). All of these HCP holders except the City of Portland requested that their lands be excluded from designation as critical habitat for these DPSs and were of the opinion that exclusion would be a benefit and enhance the partnership between NMFS and the HCP landowner, as described above. The City of Portland requested that lands associated with the Bull Run River and the City's water supply be designated as critical habitat for coho, consistent with what we had done in 2005 when designating critical habitat for lower Columbia River Chinook, chum, and steelhead.

Determine whether to balance benefits and consider exclusions

The balancing test in section 4(b)(2) contemplates weighing benefits that are not directly comparable – the benefit to species conservation that comes from critical habitat designation balanced against the economic benefit, benefit to national security, or other relevant benefit that results if an area is excluded from designation. In addition, there may be situations where exclusion of particular areas has a conservation benefit to the species (for example, as discussed later, excluding private land from designation when the landowner has contractually agreed to voluntary conservation measures may result in a net conservation benefit to the species). Section 4(b)(2) does not specify a method for the weighing process, nor do our regulations. Legislative history suggests that the consideration and weight given to impacts is within the Secretary's discretion (H.R. 95-1625), and section 4(b)(2) makes clear that the decision to exclude is itself discretionary even when benefits of exclusion outweigh benefits of designation.

In our 2005 critical habitat designations for salmon and steelhead, we balanced benefits of designation against benefits of exclusion and excluded particular areas for many of the affected species. Our approach was informed by both biology and policy. In deciding to balance benefits, we noted that salmon and steelhead are widely distributed and their range includes areas that have both high and low conservation value, thus it may be possible to construct different scenarios for achieving conservation. We also noted Administration policy regarding regulations, as expressed in Executive Order 12866, which directs agencies to select regulatory approaches that "maximize net benefits," and to "design regulations in the most cost-effective manner to achieve the regulatory objective." For these reasons, we again decided to weigh benefits of designation against benefits of exclusion based on economic impacts, impacts to tribal sovereignty and self-determination, and impacts to conservation partners with approved habitat conservation plans. Appendices B, C, and D describe in detail our considerations in each of these categories. The remainder of this report describes the benefits of designation then further considers and weighs the benefits of exclusion and designation for each type of impact. We discuss the legal and policy context that informs our balancing for each type of impact, describe the results of the weighing process, and recommend exclusions.

Determine the Benefits of Designation

The principal benefit of designating critical habitat is that ESA section 7 requires every federal agency to ensure that any action it authorizes, funds or carries out is not likely to result in the destruction or adverse modification of designated critical habitat. This complements the Section 7 provision that federal agencies ensure their actions are not likely to jeopardize the continued existence of a listed species. The requirement that agencies avoid adversely modifying critical habitat is in addition to the requirement that they avoid jeopardy to the species, thus the benefit of designating critical habitat is "incremental" to the benefit that comes with listing. Another possible benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area. This may focus and contribute to conservation efforts by clearly delineating areas that are important to species conservation.

Ideally the balancing of any benefits, particularly economic benefits of exclusion, would involve first translating the benefits on both sides of the balance into a common metric. Executive branch guidance from the Office of Management and Budget (OMB) suggests that benefits should first be monetized – converted into dollars. Benefits that cannot be monetized should be quantified (for example, numbers of fish saved.) Where benefits can neither be monetized nor quantified, agencies are to describe the expected benefits (OMB 2003).

It may be possible to monetize benefits of critical habitat designation for a threatened or endangered species in terms of willingness-to-pay (OMB 2003). However, we are not aware of any available data at the scale of our designation (by watershed) that would support such an analysis for salmon and steelhead. The short statutory timeframes, geographic scale of the designations under consideration, and the statute's requirement to use best "available" information suggest such a costly and time-consuming approach is not currently available. In addition, section 4(b)(2) requires analysis of impacts other than economic impacts that are equally difficult to monetize, such as benefits to national security of excluding areas from critical habitat. In the case of salmon and steelhead designations, impacts to Northwest tribes or to our program to promote voluntary conservation agreements are "other relevant" impacts that also may be difficult to monetize.

An alternative approach, approved by OMB, is to conduct a cost-effectiveness analysis. A cost-effectiveness analysis ideally first involves quantifying benefits, for example, percent reduction in extinction risk, percent increase in productivity, or increase in numbers of fish. Given the state of the science, it would be difficult to quantify the benefits reliably. There are models for estimating numbers of salmon that might be produced from a watershed under different sets of environmental conditions (for example, Ecosystem Diagnosis and Treatment (Mobrand 1999)). While such models give quantified results, the accuracy of the quantified projections is uncertain because of the lack of data both on the relationships between environmental conditions and numbers of fish, and the actual conditions of habitat in a given area. This leads to a heavy reliance on expert opinion for estimating habitat condition and the expected response of fish to changing environmental conditions in a specific location. Moreover, applying such models at the scale required for salmon and steelhead would take more time than the statute allows.

Although it is difficult to monetize or quantify benefits of critical habitat designation, it is possible to differentiate among habitat areas based on their relative contribution to conservation. For example, habitat areas can be rated as having a high, medium or low conservation value. Like

the models discussed above, such a rating is based on best professional judgment. The simpler output (a qualitative ordinal ranking), however, may better reflect the state of the science for the geographic scale considered here than a quantified output, and can be done more easily within the statutory timeframes and with available information. The qualitative ordinal evaluations can then be combined with estimates of the economic costs of critical habitat designation in a framework that essentially adopts that of cost-effectiveness. Individual habitat areas can then be assessed using both their biological evaluation and economic cost, so that areas with high conservation value and lower economic cost have a higher priority for designation and areas with a low conservation value and higher economic cost have a higher priority for exclusion.

After establishing those specific areas that meet the definition of critical habitat, we asked the teams of federal biologists to determine the relative conservation value of each specific area for each species (high, medium or low) (NMFS 2012a). Their evaluation provided information allowing us to determine the benefit of designating each watershed in a way that would aid the 4(b)(2) balancing test. The higher the conservation value of a watershed, the greater the benefit of the section 7 protection.

The teams first scored each watershed based on five factors related to the quantity and quality of the physical and biological features. For some of these factors the teams relied on their consultation experience in considering the extent to which habitat protection or improvement could be achieved through section 7 consultation. They next considered each area in relation to other areas and with respect to the population occupying that area. Based on a consideration of the raw scores for each area, and a consideration of that area's contribution in relation to other areas and in relation to the overall population structure of the DPS, the teams rated each watershed as having a "high," "medium" or "low" conservation value.

Areas rated "high" are likely to contribute the most to conservation of a DPS, while those rated "low" are likely to contribute least. A rating of "high" carries with it a judgment that this area contributes significantly to conservation. A rating of "low" does not mean an area has no conservation value (and therefore there would be no benefit of designation), nor does it mean there would be no impact on conservation of the DPS if the habitat were adversely modified. The benefit of designating a habitat area with a low conservation value will depend on the reasons the area received a "low" rating, on the conservation value of other habitat areas available to the DPS, and on whether nearby habitat areas are designated.

Balance Benefits of Designation against Benefits of Exclusion and Recommend Exclusions If Appropriate

The balancing contemplated in section 4(b)(2) involves balancing unlike values – conservation balanced against economic interests, conservation balanced against national security, or conservation balanced against trust obligations to Indian tribes. It also may involve balancing conservation by one method (critical habitat designation and section 7 consultation) against conservation achieved by a different method (such as engaging tribes in range-wide management or engaging landowners in habitat conservation planning on private land). Because conservation is the primary consideration behind critical habitat designation, we first describe the policy direction relevant to salmon and steelhead conservation. In the sections that follow, we balance the

conservation benefit of designation against the benefit of exclusion relevant to economic impacts, impacts to Indian tribes, and impacts to HCP permitees, describing the policy context specific to each.

Policy direction relevant to the weight to be given conservation (particularly habitat conservation and salmon and steelhead conservation)

Endangered Species Act, Section 2 (16 U.S.C. 1531(a)(2))

> The purposes of this chapter are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved . . .

Policy on the Consideration of Hatchery-Origin Fish in Endangered Species Act Listing Determinations for Pacific Salmon and Steelhead (70 FR 37204; June 28, 2005)

> NMFS will apply this policy in support of the conservation of naturally-spawning salmon and the ecosystems upon which they depend, consistent with section 2 (b) of the ESA.

Letter from NOAA Administrator to Members of Congress – May 14, 2004

> At President Bush's direction, recovery of salmon is the major focus for NOAA in the Pacific Northwest, an objective widely shared in the region and the nation. . . . Much work remains to be done to expand the habitat to support future generations of naturally spawning populations.
> . . .
> The central tenet of the hatchery policy is the conservation of naturally-spawning salmon and the ecosystems upon which they depend.

Consideration of Economic Exclusions

Our consideration of economic impacts is described in further detail in Appendix B. In balancing the benefits of designation against the economic benefits of exclusion, we considered policy direction relevant to economic impacts. Agencies are frequently required to balance benefits of regulations against economic impacts; Executive Order 12866 established this requirement for federal agency regulation and gives general guidance.

Executive Order 12866

Section 1. Statement of Regulatory Philosophy and Principles.

> (a) The Regulatory Philosophy.
> In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that

these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, *in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits* (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

(b) The Principles of Regulation.

. . .

(5) When an agency determines that a regulation is the best available method of achieving the regulatory objective, it shall design its regulations in the most cost-effective manner to achieve the regulatory objective. In doing so, each agency shall consider incentives for innovation, consistency, predictability, the costs of enforcement and compliance (to the government, regulated entities, and the public), flexibility, distributive impacts, and equity. (emphasis added)

In weighing economic impacts, we followed the policy direction from Executive Order 12866 to "maximize net benefits" and seek to achieve regulatory objectives in "the most cost effective manner." Consistent with our past practice for salmon and steelhead critical habitat designations, we took into consideration a cost-effectiveness approach giving priority to excluding habitat areas with a relatively lower benefit of designation and a relatively higher economic impact. The circumstances of these and other listed salmon and steelhead DPSs can make a cost-effectiveness approach useful because different areas have different conservation value relative to one another. Pacific salmon and steelhead are wide-ranging species and occupy numerous habitat areas with thousands of stream miles. Not all occupied areas are of equal importance to conserving a DPS. Within the currently occupied range there are areas that historically were more or less productive, that are currently more or less degraded, or that support populations that are more or less central to conservation of the DPS as a whole. As a result, in many cases it may be possible to construct a designation scenario in which conservation of the DPS as a whole will be possible even if the entire area meeting the definition of critical habitat is not designated. This creates the potential to consider exclusions where conservation values are relatively low and economic impacts are relatively high. This is the same approach we took in our 2005 salmonid critical habitat designations (70 FR 52630, September 2, 2005) and green sturgeon critical habitat designation (74 FR 52300, October 9, 2009).

In seeking a cost-effective designation that would minimize economic impacts, we also heeded the policy direction to conserve salmon and steelhead habitat described above. In accordance with the policy direction to conserve salmon and steelhead habitat, we do not propose to exclude any habitat areas based on economic impacts if exclusion would "significantly impede conservation." We adopted this test because habitat loss and degradation are leading factors for the decline of both DPSs (70 FR 37160, June 28, 2005; 72 FR 26722, May 11, 2007), and habitat protection and restoration have been identified as key actions in Lower Columbia River and Puget Sound recovery plans and assessments (Puget Sound Salmon Recovery Plan 2009, Judge 2011, NMFS 2012d). Consistent with this test, we did not consider any areas for an economic exclusion

that we had identified as having a high conservation value. We gave greater weight to the benefit of designating these high value areas than to the benefit of avoiding economic impacts because of the historic loss and degradation of habitat, the ongoing threats to habitat, and the importance of habitat protection and restoration in recovering the DPSs. The approach taken here is the same approach we took in our 2005 salmon and steelhead critical habitat designations (70 FR 52630, September 2, 2005) and green sturgeon critical habitat designation (74 FR 52300, October 9, 2009). Also consistent with this test, we do not propose to exclude any medium or low quality habitat areas if we concluded that their exclusion would significantly impede conservation, as described further below.

In the first step of balancing economic benefits, we identified for potential exclusion the low value habitat areas with an annual economic impact greater than or equal to $10,000 and the medium value habitat areas with an annual economic impact greater than or equal to $100,000. These dollar thresholds are substantially lower than the thresholds we used in our 2005 designations because here we have used the incremental impact of designation while in the 2005 rule we used the co-extensive impact of designation.[2] As with the 2005 designations, the thresholds we selected for identifying habitat areas eligible for exclusion do not represent an objective judgment that, for example, a low value area is worth a certain dollar amount and no more. The statute directs us to balance dissimilar values but also emphasizes the discretionary nature of the balancing task. The cost estimates developed by our economic analysis do not have obvious break points that would lead to a logical division between "high," "medium," and "low" costs. Given these factors, a judgment that any particular dollar threshold is objectively "right," would be neither necessary nor possible. Rather, what economic impact is "high" and, therefore, might outweigh the benefit of designating a medium or low value habitat area is a matter of discretion and depends on the policy context.

In the second step of the process, we asked the critical habitat analytical review Teams whether exclusion of any of the low- or medium-value habitat areas would significantly impede conservation of the DPS. The Teams considered this question in the context of: (1) the Indian lands and HCP lands they assumed would be excluded based on "other relevant impacts" (exclusions discussed later in this report); (2) all of the areas eligible for economic exclusion; and (3) the information they had developed in providing the initial conservation ratings. Appendix B shows the results of applying this approach to each DPS, indicating (1) all of those watersheds determined eligible for exclusion in the first step of the process and (2) the Teams' determination whether any areas eligible for exclusion could be excluded without significantly impeding the conservation of the respective DPS.

As discussed earlier, the scale we chose for the "specific area" referred to in section 3(5)(A) was occupied stream reaches within a watershed, delineated by the USGS as a HUC5. There were some complications with this delineation that required us to adapt the approach for some areas. In particular, a large stream or river might serve as a connectivity corridor to and from

[2] Our 2005 rule explains in greater detail how and why we relied on co-extensive impacts (see 70 FR 52630, September 2, 2005 and NMFS 2005). With an incremental approach, both the benefits of exclusion (the cost savings associated with exclusion) and the benefits of designation (increased conservation) are less than what they would be in a co-extensive approach.

many watersheds, yet be imbedded itself in a watershed. In any given watershed through which it passes, the stream may have a few or several tributaries. This is illustrated by Figure 1. In this example, a connectivity corridor is imbedded in the watershed designated as "A." The connectivity corridor serves the watersheds designated as "B," "C," and "D." In addition, there are tributaries in "A" that are assigned a low conservation value because of that HUC's rating. For connectivity corridors embedded in a watershed, we asked the teams of biologists to rate the conservation value of the watershed based on the tributary habitat, and assigned the connectivity corridor the rating of the highest-rated watershed for which it served as a connectivity corridor. This could result in a connectivity corridor with a high rating embedded in a habitat area with a low or medium rating.

The reason for this treatment of connectivity corridors is the role they play in the salmon's life cycle. Salmon and steelhead are anadromous – born in fresh water, migrating to salt water to feed and grow, and returning to fresh water to spawn. Without a connectivity corridor to and from the sea, salmon cannot complete their life cycle. It would be illogical to consider a spawning and rearing area as having a particular conservation value and not consider the associated connectivity corridor as having a similar conservation value.

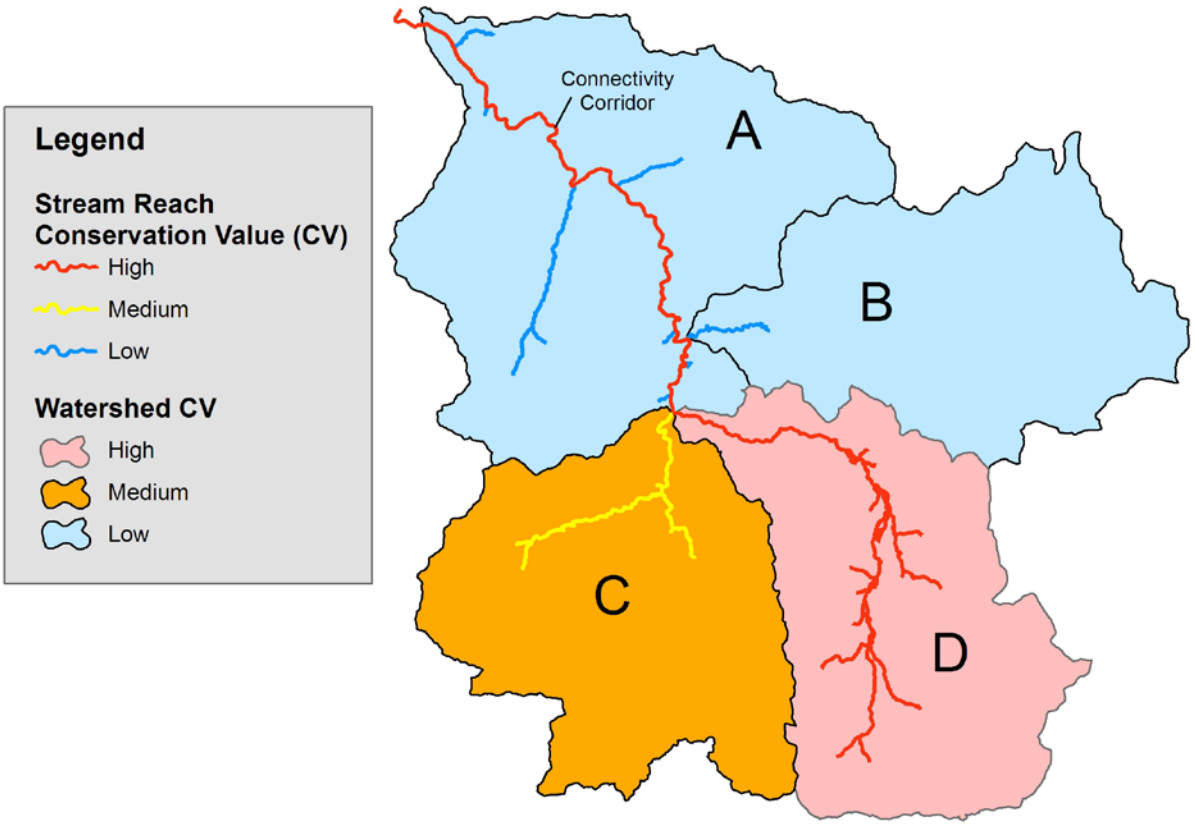

Figure 1. Illustration of a connectivity corridor embedded within a watershed (HUC5).

As described in Appendix B, we are proposing to exclude from critical habitat all stream reaches in the following HUC5 watersheds on the basis of economic impacts that outweigh the benefit of designation:

Lower Columbia River Coho

- Abernethy Creek (HUC 1709000704) – Low conservation value area with relatively high annual economic impacts ($13,500).

Puget Sound Steelhead

- Lake Sammamish (HUC 1711001202) – Low conservation value area with relatively high annual economic impacts ($16,000).
- Lake Washington (HUC 1711001203) – Low conservation value area with a medium value connectivity corridor and very high annual economic impacts ($103,000).
- Sammamish River (HUC 1711001204) – Low conservation value area with a low value connectivity corridor and relatively high annual economic impacts ($23,800).

For each of these areas the Teams concluded that exclusion would not significantly impede conservation, noting that the excluded areas consist almost entirely of low conservation value stream reaches representing a very small fraction of all areas occupied by the relevant DPS (less than 1 percent for coho and less than 5 percent for steelhead).

Consideration of Indian Lands Exclusions

Our consideration of Indian lands is described in further detail in Appendix C. We balanced the benefits of designation against the benefits of exclusion for Indian lands in light of the unique federal tribal relationship, the unique status of Indian lands, and the federal policies promoting tribal sovereignty and self-determination, among others. Those policies are described more fully in Appendix C.

Indian lands potentially affected by a critical habitat designation only occur within the range of the Puget Sound steelhead DPS. There are 11 tribes with Indian lands that overlap the critical habitat of this DPS, with approximately 68 miles of habitat within reservation boundaries. All but about 0.5 miles occur in areas rated as having a high conservation value. Because land within reservation boundaries is generally a mix of Indian and non-Indian lands, the total number of stream miles considered for exclusion is less than 68 miles, although it is not possible to estimate the exact amount.

The principal benefit of designating critical habitat is section 7's requirement that federal agencies ensure their actions are not likely to result in adverse modification of that habitat. To understand the benefit of designating critical habitat on Indian lands, we considered the number of miles of stream areas affected, the conservation value rating of those areas, and the types of activities occurring there that would be likely to undergo a section 7 consultation. (These are described in Tables 1 and 2, respectively, of Appendix C).

The types of activities occurring in these areas that would be likely to undergo a section 7 consultation include activities associated with: mining, utilities, dredging, instream activities, development, National Pollutant Discharge Elimination System permits, transportation, non-hydropower dams, and hydropower dams (Appendix C).

The benefit of excluding these areas is that federal agencies acting on behalf of, funding, or issuing permits to the tribes would not need to reinitiate consultation on ongoing activities for which consultation has been completed. Reinitiation of consultation would likely require some commitment of resources on the part of the affected tribe. Moreover, in a reinitiated consultation, or in any future consultation, tribes may be required to modify some of their activities to ensure the activities would not be likely to adversely modify the critical habitat. The benefits of excluding Indian lands from designation include: 1) the furtherance of established national policies, our federal trust obligations and our deference to the tribes in management of natural resources on their lands; 2) the maintenance of effective long term working relationships to promote the conservation of salmon and steelhead on an ecosystem-wide basis across four states; 3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species on an ecosystem-wide basis; and 4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs.

For Puget Sound steelhead, we considered: the miles of habitat within the boundaries of Indian lands; the conservation value of that habitat; and the federal activities in those areas that would likely undergo section 7 consultation. We also considered the degree to which the tribes believe designation will affect their participation in regional management forums and their ability to manage their lands (Appendix C).

Based on our consideration, and given the following factors, we concluded that the benefits to conservation of Puget Sound steelhead from full tribal participation in regional salmon management mitigates the loss of conservation benefits that would result from designation of tribal lands. With this mitigating conservation benefit in mind, we further concluded that the benefits to tribal governments, with whom the federal government has a unique trust relationship, particularly with regard to land held by the federal government in trust for the tribes, therefore outweigh the conservation benefits of designation for Puget Sound steelhead. We considered the following factors in reaching this conclusion:

- the unique relationship between the federal government and Indian tribes in general and more specifically defined in the Pacific Northwest under *U.S. v. Washington* and *U.S. v. Oregon*;
- the unique status of lands held in trust by the federal government for the benefit of Indian tribes;
- the unique consideration to be given Indian lands under Secretarial Order 3206 ;
- the potential for critical habitat designation to have some impact on tribal participation in regional management forums;
- the potential for critical habitat designation to have some impact on tribal sovereignty and self-governance;
- our analysis of the type of activities likely to require a section 7 consultation; and
- the fact that collectively these areas represent a small percentage of the total habitat available for Puget Sound steelhead.

The Indian lands specifically proposed for exclusion are those defined in the Secretarial Order, including: 1) lands held in trust by the United States for the benefit of any Indian tribe, 2) land held

in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation, 3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and, 4) fee lands within the reservation boundaries owned by individual Indians. Our consideration of whether these exclusions would result in extinction of Puget Sound steelhead is described in more detail later in this report.

Consideration of Lands Covered by an HCP

Our consideration of lands covered by completed HCPs is described in further detail in Appendix D. We balanced the benefits of designation against the benefits of exclusion for lands covered by an approved HCP in light of policy direction relevant to the program for voluntary conservation embodied in Section 10 of the ESA. Congress added section 10 to the ESA to encourage "creative partnerships between the private sector and local, state and federal agencies for the protection of endangered species and habitat conservation (*H.R. Rep. No. 835, 97th Congress, 2nd Session 31 (Reprinted in 1982 U.S. Code Congressional and Administrative New s2807, 2831).* If excluding areas from critical habitat designation promotes such conservation partnerships, such exclusions may have conservation benefits that offset the loss of conservation benefit that would result from designation.

For lower Columbia River coho, HCP lands overlap with approximately 1,038 miles of critical habitat, with 25 miles of low, 283 miles of medium, and 730 miles of high value habitat. For Puget Sound steelhead, HCP lands overlap with approximately 1,434 miles of critical habitat, with 85 miles of low, 280 miles of medium, and 1,069 miles of high value habitat.

The affected landowners are: Washington Department of Natural Resources (managing two HCPs[3]); Green Diamond Resources Company; West Fork Timber Company; City of Kent, Washington; and J.L. Storedahl and Sons. The types of activities occurring in these areas that would be likely to undergo a section 7 consultation include activities associated with: dredging, instream activities, development, National Pollutant Discharge Elimination System permits, transportation, non-hydropower dams, and hydropower dams (NMFS 2005e).

The benefits of designating HCP-covered lands may be less than what they would be on non-HCP land because of the fact that the landowner has put conservation measures in place through the HCP. These measures provide protection when actions are taken by the landowner and are covered by the HCP.

The benefits of excluding these HCP-covered lands from designation include the furtherance of our ongoing relationship with these landowners in particular, the potential that exclusion of these lands will provide an incentive for other landowners to seek HCPs, and the general promotion of a the HCP program. Conservation agreements on non-federal land provide an important conservation benefit to listed species. Section 7 applies only to federal agency actions. Its requirements protect listed salmon and steelhead on federal lands and whenever a federal permit or funding is involved. Nevertheless, its reach is limited. The vast majority of activities occurring in riparian and upland areas on non-federal lands do not require a federal permit or funding and are not reached by section 7. The ability of the ESA to induce private landowners to

[3] The Washington Department of Natural Resources (West of Cascades) HCP and the Washington Forest Practices HCP.

adopt conservation measures lies instead in the take prohibitions of section 9(a) and 4(d) and many landowners have chosen to adopt conservation plans to avoid any uncertainty. For these reasons, the agency has a long-standing policy of promoting voluntary conservation agreements with non-federal landowners, particularly through the HCP program (61 FR 63854; December 2, 1996).

For each DPS, we considered: the miles of habitat within the boundaries of the seven HCPs; the conservation value of that habitat; and the types of federal activities in those areas that would likely undergo section 7 consultation. We also considered the degree to which the landowners believe designation will affect the ongoing partnership that is essential to the continued successful implementation of the HCP and the extent to which exclusion provides an incentive to other landowners (NMFS 2005e).

Based on our consideration, and given the following factors, we conclude that the benefits to conservation of the DPSs from enhancing our ongoing relationship with those landowners who prefer exclusion of their lands, from encouraging other landowners to develop HCPs, and from promoting the HCP program generally, outweigh the benefits of designation for the DPSs. We considered the following factors in reaching this conclusion:

- the primary means of obtaining conservation on private lands is through HCPs and other conservation agreements rather than through section 7;
- in approving these HCPs we concluded that they were adequate to provide for conservation of the DPSs, with respect to the activities covered by the HCPs;
- our established policy of promoting conservation on private land through developing HCPs;
- the stated belief that designation of these HCP lands would interfere with our ongoing relationship with these landowners;
- the expectation that exclusion from critical habitat designation will encourage other landowners to seek HCPs;
- the fact that these HCPs expressly provide for conservation of the affected DPSs.

Cumulative Exclusions Will Not Result in Extinction of the Species

Section 4(b)(2) limits our discretion to exclude areas from designation if exclusion will result in extinction of the species. Since we have not recommended excluding any habitat areas based on economic impacts if the exclusion would significantly impede conservation (see "Consideration of Economic Exclusions" above), we have determined for each DPS that the exclusion of the areas we recommend based on economic impacts will not result in the extinction of either DPS. All areas proposed for exclusion due to economic impacts are of low conservation value. Moreover, they comprise a small fraction – less than 5 percent – of all habitat areas considered for designation as critical habitat for either DPS.

We also conclude that excluding Indian lands – and thereby furthering the federal government's policy of promoting respect for tribal sovereignty and self-governance – will not result in extinction of either species. Steelhead habitat on Indian lands represents a small proportion of total area occupied by this DPS, and the Tribes are actively engaged in fisheries, habitat management, and species recovery programs that benefit steelhead and other salmonids.

In addition, we conclude that excluding lands covered by several HCPs will not result in extinction of either species. These particular HCPs result in management actions that promote conservation of the listed species in a manner that is not available through the section 7 requirements regarding critical habitat. Excluding these HCP areas from designation is expected to enhance our relationship with the landowner and may provide an incentive to other landowners to seek conservation agreements with us. These outcomes will in turn generally benefit our recovery efforts to foster voluntary efforts on vast areas of nonfederal lands which make up a large proportion of each species' range and will play a critical role in avoiding species extinction. Appendix C specifically considers: the conservation value of the habitat areas within HCP boundaries, the types of federal activities likely to occur there that will not receive a critical habitat analysis in a section 7 consultation if the area is excluded from designation, and the types of conservation actions that will occur under the HCP. The HCPs analyzed range considerably in size and scope of conservation actions, and the amount of habitat subject to HCP exclusions varies considerably by watershed (ranging from <1% to 86%). While some HCPs address a small number of habitat areas in a single watershed, others such as the Washington State Forest Practices HCP overlap with dozens of watersheds within the range of both DPSs.

In total, for LCR coho we are proposing to designate 2,288 stream miles and exclude 1,065 stream miles, and for PS steelhead we are proposing to designate 1,880 stream miles and exclude 1,639 stream miles. For the following reasons, we conclude that these exclusions in combination will not result in the extinction of either DPS:

- Except for exclusions due to economic impacts, there are no watersheds that are proposed for exclusion in their entirety.
- Although the extent of the exclusions overall is significant (50% of the critical habitat for Puget Sound steelhead and nearly 30% of the critical habitat for lower Columbia coho), and many of the areas excluded are of medium or high conservation value to the species, most of the exclusions are based on the presence of HCPs, which have a conservation benefit for the species. Also, the likely leverage to obtain significant conservation benefits from an ESA section 7 consultation is expected to be low for most areas. Because the presence of high quality forested habitat is key to salmon and steelhead recovery (Appendix C), the protections of the HCP will have significant benefits over the long term as riparian forest habitat is developed. In addition, we believe that the HCP exclusions in particular may provide an incentive to other landowners to seek conservation agreements with us.
- The few cases where an entire watershed was proposed for exclusion (due to economic impacts) all involved habitat areas that the Teams deemed to be of low conservation value.
- The proposed Indian land exclusions involve stream reaches that are already managed by the tribes for salmonid conservation.

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Appendix A – Analysis of U.S. Department of Defense INRMPs

November 28, 2012

MEMO

To: PRD File

From: Donna Darm
Assistant Regional Administrator
Protected Resources Division, Northwest Region

Subject: Analysis of Integrated Resource Management Plans by the U.S. Department of Defense within the Range of Puget Sound Steelhead and Lower Columbia River Coho

Background

The Northwest Region is recommending critical habitat designation for the Puget Sound steelhead and lower Columbia River coho DPSs. Under ESA Section 4(a)(3)(B) the Secretary may not designate military lands as critical habitat if those lands are covered by an Integrated Natural Resource Management Plan (INRMP) under the Sikes Act (16 U.S.C. 670a) that the Secretary certifies in writing benefits the listed species (National Defense Authorization Act is Public Law. No. 108-136)). An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes an assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. Installations must review and update INRMPs every five years.

Under the Sikes Act, the U.S. Department of Defense (DOD) consults with the U.S. Fish and Wildlife Service on the development and implementation of INRMPs for installations with listed species. The Sikes Act does not give NMFS a formal role in reviewing INRMPs and INRMP recommendations are typically general in nature. However, in recent years NMFS has provided feedback to DOD on a number of INRMPs, especially within the range of Puget Sound steelhead where the Army and Navy have a relatively high concentration of military installations. In addition, since 1999 NMFS has consulted with the Army and Navy under ESA Section 7(a)(2) on dozens of proposed actions that may affect ESA-listed salmon and steelhead. Those proposed actions are related to various INRMP elements and the resultant consultations provide staff with insights into how the DOD implements particular INRMPs.

Following is our assessment of each of the INRMPs/facilities in Washington associated with areas under consideration for designation as critical habitat for Puget Sound steelhead. We did not identify any INRMPs or DOD installations within the range of lower Columbia River coho.

(1) Naval Radio Station Jim Creek (Navy)

INRMP Reviewed: October 2009 and 2010 Addendum, INRMP - Naval Radio Station (T) Jim Creek

Affected DPS: Puget Sound Steelhead

Habitat Affected: Naval Radio Station Jim Creek overlaps with two miles of steelhead habitat in freshwater reaches of upper Jim Creek and its tributaries. These reaches are in the South Fork Stillaguamish River watershed which was rated as High conservation value to Puget Sound steelhead.

Summary of Benefits to Affected DPS: The INRMP specifically addresses benefits to threatened Puget Sound steelhead, Chinook, bull trout and various terrestrial species. The conservation efforts directed at steelhead other salmonids, especially Chinook and bull trout, will provide benefits to the Puget Sound steelhead DPS. These efforts include:

- Ensuring that all proposed routine construction and repair activities that will take place below the mean high water (MHW) line be restricted to the approved in-water work time for salmonids (July 1st - August 15th).
- Ensuring that all proposed actions at the installation that potentially affect (including beneficially affect) salmonids comply with Section 7 of the Endangered Species Act which requires, at a minimum, informal consultation with NOAA Fisheries; this includes emergency repairs to structures and other activities that are required by the installation's mission.
- Identifying operations and infrastructure that could affect water quality (e.g., storm drains, culvert repair/replacement, and pesticide applications) and coordinate with relevant Navy commands to minimize or eliminate impacts.
- Continued coordination with the Washington Department of Fish and Wildlife (WDFW) on annual salmon spawning surveys.
- Consulting annually with WDFW and NMFS staff to identify necessary changes to the INRMP that would benefit salmonids.

(2) Naval Base Kitsap – Toandos Peninsula (Navy)

INRMP Reviewed: July 2011 Draft INRMP for Naval Base Kitsap (Note: the final INRMP is scheduled for completion in mid-2013[1])

Affected DPS: Puget Sound Steelhead

[1] Personal communication, C. Kunz (US Navy) to S. Stone (NMFS) on 11/28/12.

Habitat Affected: The Toandos Peninsula is one of several scattered Navy sites/installations comprising the Naval Base Kitsap. This particular site is a 768-acre undeveloped forested strip on the Toandos Peninsula in Jefferson County that serves as a buffer zone (restricted from public and recreational access) for the Navy's Bangor base. An unnamed creek on the southern edge of this site overlaps with about 0.2 miles of freshwater steelhead habitat. The site is in the Upper West Hood Canal Frontal watershed which was rated as Medium conservation value to Puget Sound steelhead.

Summary of Benefits to Affected DPS: In addition to benefits accruing from the Navy's general restriction on public access and development of this site, the INRMP identifies various activities that will likely provide benefits to steelhead. The occupied stream reaches at this site are bordered by a forested riparian zone. The INRMP includes forest stand improvements on all Naval Base Kitsap (NBK) properties so as to increase the stands' vigor, diameter, and resistance to insects/disease. In accordance with DOD and Navy directives, NBK's pest management program follows the principles of Integrated Pest Management to avoid or minimize the use of pesticides when nonchemical alternatives are available and cost effective. Also the Navy will study dry dock effects on steelhead and salmonid entrainment at NBK (as required by a NMFS biological opinion) and will conduct shoreline surveys for species, habitat conditions, pollution, and potential enhancement opportunities that will likely benefit Puget Sound steelhead. In addition, the Navy will pursue the restoration/improvement of fish access (e.g., culvert replacements and removals) at Devils Hole Creek which may increase accessible habitat for Puget Sound steelhead and other salmonids.

(3) Fort Lewis (Army and Air Force)

INRMP Reviewed: June 2007, Fort Lewis Final INRMP

Affected DPS: Puget Sound Steelhead

Habitat Affected: Fort Lewis overlaps or is adjacent to 32 miles of steelhead habitat in freshwater reaches of the Nisqually River, Lacamas Creek, Muck Creek, and Clover Creek. These reaches are in the Chambers Creek and Lowland watersheds which were rated as Low and High conservation value to Puget Sound steelhead, respectively.

Summary of Benefits to Affected DPS: The Fort Lewis INRMP contains an Endangered Species Management Plan for Chinook, steelhead, and bull trout. General protection measures for these species include:

- Review of all construction activities with potential effects to salmonids.
- Review of all forest management activities with an emphasis on maintaining riparian cover and suitable stream temperatures, as well as controlling non-native and invasive vegetation.
- Analyze stream enhancement projects that might impact existing or potential habitat and develop appropriate mitigation measures.
- Restrict recreational vehicle traffic near streams and conduct stream crossing training activities during the off-peak fish migration window.

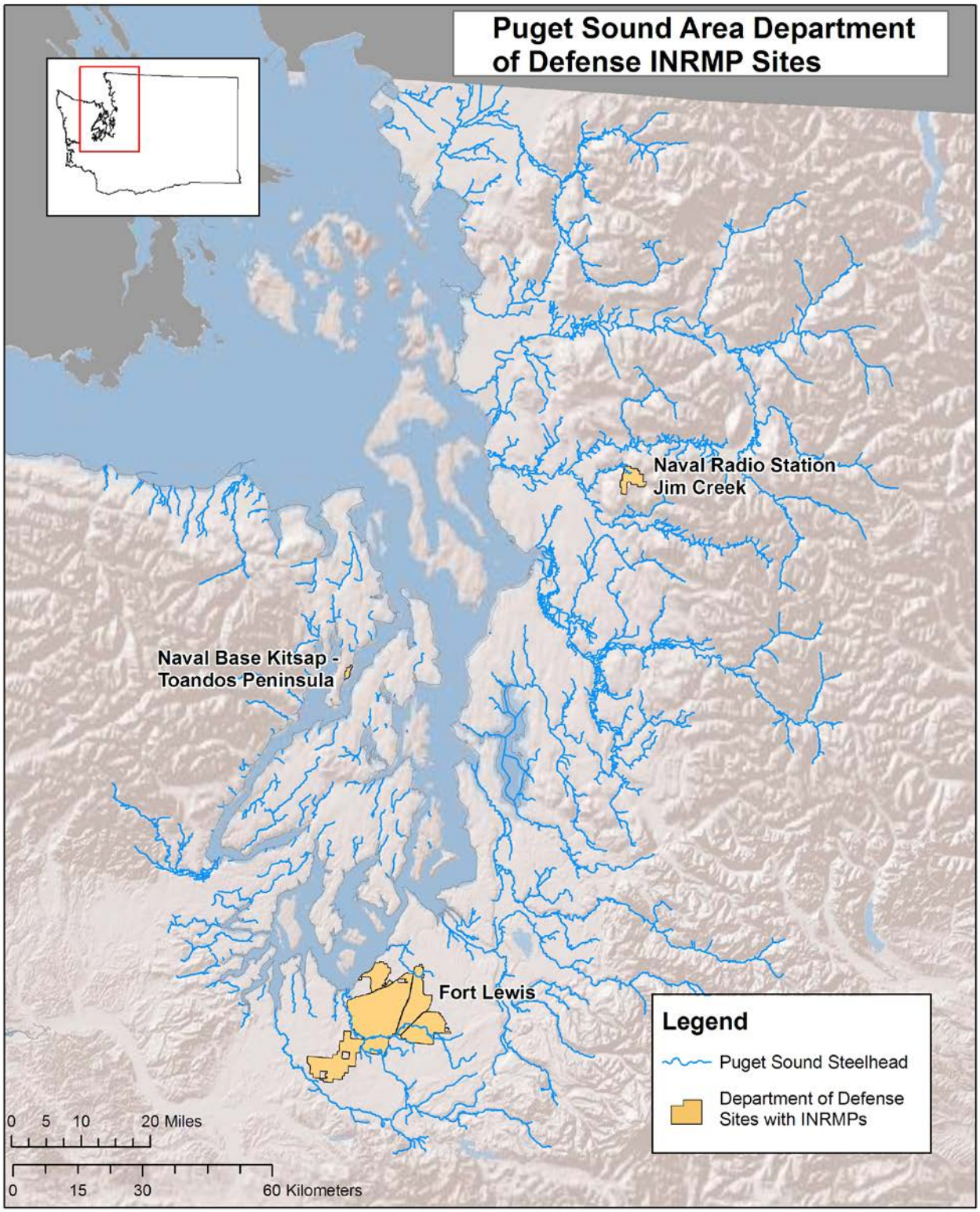
- Conduct routine inspections of fish ladders and spawning streams on to identify and remove barriers to fish migration.

Fort Lewis has active programs for forest management and research, as well as remediation of contaminated soils and stream restoration. In consultation with NOAA Fisheries, an inventory of endangered and threatened species on Fort Lewis is ongoing and programs for monitoring these species have been developed and implemented. Proposed actions that could result in adverse impacts to listed species, or result in the need to list Federal candidate species, will be avoided. Restrictions have also been placed on the timing and types of military operations that may occur offshore at Solo Point to minimize impacts to salmonids that migrate near the site.

Conclusion

Our initial assessment indicates that many of the DOD's specific habitat-related actions will likely benefit Puget Sound steelhead and promote the species' conservation. This assessment is informed by staff review of each INRMP as well as recent correspondence between NMFS and DOD regarding potential issues related to critical habitat designation. Moreover, NMFS staff has direct experience working closely with each military facility and have noted DOD's proven interest and ability to protect and restore habitats important to steelhead and other salmonids. Therefore, given the scope and intent of each INRMP, and the overall protective work of each DOD facility with respect to water quality and other salmonid habitat features (e.g., riparian vegetation), it is likely that implementing each of these INRMPs will benefit ESA-listed Puget Sound steelhead. This conclusion is consistent with NMFS' previous critical habitat assessments for ESA-listed Puget Sound Chinook salmon and Hood Canal summer-run chum salmon (70 FR 52630, September 2, 2005).

Figure 1. Location of DOD sites with INRMPs within the range of the Puget Sound steelhead DPS.



Appendix B – Consideration of Economic Impacts

November 28, 2012

MEMO

To: PRD File

From: Donna Darm
Assistant Regional Administrator
Protected Resources Division, Northwest Region

Subject: Analysis of the Benefits of Designation versus the Economic Benefits of Exclusion for the Lower Columbia River Coho and Puget Sound Steelhead Distinct Population Segments

This analysis was prepared to inform the agency's exercise of discretion under Section 4(b)(2) of the Endangered Species Act (ESA), which allows the Secretary to exclude any particular area from critical habitat designation if the benefits of exclusion outweigh the benefits of designation, so long as exclusion will not result in extinction of the listed species.

Background

On January 10, 2011, we published an advance notice of proposed rulemaking regarding our plans to prepare ESA critical habitat designations for Lower Columbia River Coho and Puget Sound Steelhead Distinct Population Segments (DPS) (76 FR 1392). In that notice we announced our intent to use the watershed-based assessment we followed in 2005 for 19 DPSs of Pacific salmon and steelhead in California, Oregon, Washington, and Idaho (70 FR 52488, September 2, 2005; 70 FR 52630, September 2, 2005). That assessment resulted in some areas being excluded due to economic impacts using a cost-effectiveness approach in which we prioritized for exclusion those areas with a relatively low conservation value and high economic impact.

To implement that same approach for lower Columbia River coho and Puget Sound steelhead, we first determined the relative conservation value of each particular area (high, medium, or low) based on the conclusions of agency biologists serving on Critical Habitat Analytical Review

Teams (Teams)[1]. In a separate effort we estimated the economic impact likely to result from section 7 consultations in each area[2]. We selected dollar thresholds to determine those areas where the economic benefit of exclusion might outweigh the conservation benefit of designation, and used those thresholds to identify particular areas we considered eligible for exclusion. For those eligible areas we then reduced the expected economic impact by an amount proportional to the amount of occupied habitat that overlapped with areas already excluded on account of being Indian lands or lands covered by an HCP. We used these adjusted dollar values to determine if a particular area was still eligible for exclusion due to economic impacts. We then consulted with the Teams to determine whether exclusion of any of the particular areas, alone or in combination, would significantly impede conservation. If we concluded that excluding an area would significantly impede conservation, we did not recommend it for exclusion and it was not proposed for exclusion based on economic impacts.

We also considered adjusting the conservation ratings of some watersheds to take into account the fact that the benefit of designation depended not just on the conservation value of an area but the extent to which a section 7 consultation would protect that conservation value. This could have resulted in an additional consideration of areas with both a low conservation rating and low section 7 "leverage." However, we did not identify any low leverage watersheds within the range of either the lower Columbia River coho DPS or the Puget Sound DPS.

As described in a separate ESA 4(b)(2) report[3], we recommend using the following dollar thresholds to determine whether economic impacts might outweigh the benefit of critical habitat designation:

- $10,000 for considering exclusion of areas having a low benefit of designation
- $100,000 for considering exclusion of areas having a medium benefit of designation

We also recommend that areas with a high conservation value not be considered for exclusion because excluding these areas would significantly impede conservation.

The attached tables and maps illustrate the results of applying the above approach. Further analysis is necessary to determine whether excluding these lands will result in extinction of either DPS, after taking into consideration the conservation needs of the DPSs and any other potential exclusions being considered.

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[1] NMFS. 2012a. Critical Habitat for Lower Columbia River Coho Salmon and Puget Sound Steelhead – Draft Biological Report prepared by NMFS NWR Protected Resources Division. October 2012.
[2] NMFS. 2012b. Economic Analysis of Critical Habitat Designation for the Distinct Population Segments of Lower Columbia River Coho and Puget Sound Steelhead. Draft Report prepared by Industrial Economics, Incorporated. October 2012.
[3] NMFS 2012c. Designation of Critical Habitat for Lower Columbia River Coho Salmon and Puget Sound Steelhead: Draft 4(b)(2) Report. NMFS Northwest Region Report. October 2012.

Attachments:
(1) DPS 4(b)(2) Tables
(2) DPS Rating & Economic Exclusions Maps

Table 1. Lower Columbia River Coho DPS. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the lower Columbia River coho salmon DPS. The conservation value rating for a watershed reflects the benefit of designation for the entire watershed, or in cases where the watershed includes a connectivity corridor serving other occupied watersheds, the rating reflects the benefit of designating the tributaries only. The rating for the connectivity corridor reflects the conservation benefit of designating rearing and migration habitat. Economic impacts are reported as the total annual cost of Endangered Species Act section 7 consultations (in U.S. dollars ($) per year. The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Acronyms: STOR = Storedahl; WDNR = WA Department of Natural Resources; WFP = WA Forest Practices; WFT = West Fork Timber.

Occupied Areas			Conservation Value Ratings		Economic Impacts and Exclusions					Other Relevant Impacts, Exclusions, or Ineligible DOD lands	
Subbasin Name	Watershed Name	Watershed Identification Code	Benefit of Designating Watershed	Benefit of Designating Connectivity Corridor*	Annual Total Impact	Tributary-only Impact	Eligible for Exclusion	Area Excluded	Reduction in Economic Impact	Indian Lands	HCP Lands
Middle Columbia/Hood	East Fork Hood River	1707010506	High		$13,500		-	-	-	-	-
Middle Columbia/Hood	West Fork Hood River	1707010507	High		$1,650		-	-	-	-	-
Middle Columbia/Hood	Hood River	1707010508	High	High	$3,890	$985	-	-	-	-	-
Middle Columbia/Hood	White Salmon River	1707010509	High		$392		-	-	-	-	WFP
Middle Columbia/Hood	Little White Salmon	1707010510	High		$2,660		-	-	-	-	-
Middle Columbia/Hood	Wind River	1707010511	Medium		$10,600		-	-	-	-	WDNR/WFP
Middle Columbia/Hood	Middle Columbia/Grays	1707010512	Medium	High	$282	$0	-	-	-	-	WFP
Middle Columbia/Hood	Middle Columbia/Eagle	1707010513	Medium	High	$4,540	$3,630	-	-	-	-	WFP
Lower Columbia/Sandy	Salmon River	1708000101	High		$1,700		-	-	-	-	-
Lower Columbia/Sandy	Zigzag River	1708000102	High		$5,280		-	-	-	-	-
Lower Columbia/Sandy	Upper Sandy River	1708000103	High		$2,420		-	-	-	-	-
Lower Columbia/Sandy	Middle Sandy River	1708000104	Medium	High	$8,820	$2,870	-	-	-	-	-
Lower Columbia/Sandy	Bull Run River	1708000105	Medium		$2,100		-	-	-	-	-
Lower Columbia/Sandy	Washougal River	1708000106	Medium		$3,480		-	-	-	-	WDNR/WFP
Lower Columbia/Sandy	Columbia Gorge Tribs	1708000107	High	High	$13,400	$10,600	-	-	-	-	WDNR/WFP
Lower Columbia/Sandy	Lower Sandy River	1708000108	Medium	High	$5,980	$3,410	-	-	-	-	-
Lower Columbia/Sandy	Salmon Creek	1708000109	Medium		$16,900		-	-	-	-	WDNR/WFP
Lewis	Upper Lewis River	1708000201	High		$112		-	-	-	-	WFP
Lewis	Muddy River	1708000202	High		$530		-	-	-	-	WFP
Lewis	Swift Reservoir	1708000203	Medium	High	$418	$418	-	-	-	-	WDNR/WFP
Lewis	Yale Reservoir	1708000204	Low	High	$161	$161	-	-	-	-	WDNR/WFP
Lewis	East Fork Lewis River	1708000205	High		$11,900		-	-	-	-	WDNR/WFP/STOR
Lewis	Lower Lewis River	1708000206	Medium	High	$1,940	$0	-	-	-	-	WDNR/WFP
Lower Columbia/Clatskanie	Kalama River	1708000301	Medium		$2,260		-	-	-	-	WDNR/WFP
Lower Columbia/Clatskanie	Beaver Creek/Columbia	1708000302	Medium		$6,060		-	-	-	-	-
Lower Columbia/Clatskanie	Clatskanie River	1708000303	High		$4,010		-	-	-	-	-
Lower Columbia/Clatskanie	Germany/ Abernathy	1708000304	Medium		$8,940		-	-	-	-	WDNR/WFP
Lower Columbia/Clatskanie	Skamokawa/Elochoman	1708000305	High		$6,190		-	-	-	-	WDNR/WFP
Lower Columbia/Clatskanie	Plympton Creek	1708000306	High		$8,230		-	-	-	-	-
Upper Cowlitz	Headwaters Cowlitz	1708000401	Medium		$22		-	-	-	-	-
Upper Cowlitz	Upper Cowlitz River	1708000402	High	High	$305	$103	-	-	-	-	WDNR/WFP
Upper Cowlitz	Cowlitz Valley Frontal	1708000403	High	High	$2,370	$2,350	-	-	-	-	WDNR/WFP/WFT

Upper Cowlitz	Upper Cispus River	1708000404	High		$229		-	-	-	-	-
Upper Cowlitz	Lower Cispus River	1708000405	High	High	$1,740	$836	-	-	-	-	WFP
Lower Cowlitz	Tilton River	1708000501	Medium		$4,480		-	-	-	-	WDNR/WFP/WFT
Lower Cowlitz	Riffe Reservoir	1708000502	Low	High	$1,820	$1,630	-	-	-	-	WDNR/WFP
Lower Cowlitz	Jackson Prairie	1708000503	High	High	$0	$0	-	-	-	-	WDNR/WFP
Lower Cowlitz	North Fork Toutle River	1708000504	High		$22		-	-	-	-	WDNR/WFP
Lower Cowlitz	Green River	1708000505	High		$22		-	-	-	-	WFP
Lower Cowlitz	South Fork Toutle River	1708000506	High		$359		-	-	-	-	WDNR/WFP
Lower Cowlitz	East Willapa	1708000507	High	High	$5,140	$2,830	-	-	-	-	WDNR/WFP
Lower Cowlitz	Coweeman	1708000508	High	High	$8,610	$7,190	-	-	-	-	WDNR/WFP
Lower Columbia	Youngs River	1708000601	Medium		$10,800		-	-	-	-	-
Lower Columbia	Big Creek	1708000602	Medium		$7,460		-	-	-	-	-
Lower Columbia	Grays Bay	1708000603	High		$10,600		-	-	-	-	WDNR/WFP
Middle Willamette	Abernethy Creek	1709000704	Low		$13,500		Yes	Entire	$13,500	-	-
Clackamas	Collawash River	1709001101	High		$1,410		-	-	-	-	-
Clackamas	Upper Clackamas River	1709001102	High		$1,720		-	-	-	-	-
Clackamas	Oak Grove Fork	1709001103	High		$1,720		-	-	-	-	-
Clackamas	Middle Clackamas	1709001104	High	High	$1,200	$1,160	-	-	-	-	-
Clackamas	Eagle Creek	1709001105	High		$2,840		-	-	-	-	-
Clackamas	Lower Clackamas River	1709001106	High	High	$19,100	$16,600	-	-	-	-	-
Lower Willamette	Johnson Creek	1709001201	High	High	$23,300	$16,700	-	-	-	-	-
Lower Willamette	Scappoose Creek	1709001202	High	High	$14,900	$7,410	-	-	-	-	-
Lower Willamette	Columbia Sl./Willamette R.	1709001203	Medium	High	$54,000	$37,100	-	-	-	-	-
Multiple	Lower Columbia	NA	High	High	$21,800	$13,600	-	-	-	-	-

Maximum economic impact if all areas were designated as critical habitat	$357,815
Total reduction in economic impact of exclusions	$13,500
Percent reduction in economic impact due to economic exclusions	3.8%
Percent reduction in miles designated as critical habitat due to economic exclusions	0.8%

Footnotes

* Blanks for the conservation value of connectivity corridors indicate that a watershed does not include a rearing and migration corridor serving occupied watersheds upstream (i.e., there are no occupied upstream watersheds).

Table 2. Puget Sound Steelhead DPS. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by Puget Sound steelhead DPS. The conservation value rating for a watershed reflects the benefit of designation for the entire watershed, or in cases where the watershed includes a connectivity corridor serving other occupied watersheds, the rating reflects the benefit of designating the tributaries only. The rating for the connectivity corridor reflects the conservation benefit of designating rearing and migration habitat. Economic impacts are reported as the total annual cost of Endangered Species Act section 7 consultations (in U.S. dollars ($) per year. The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Acronyms: COK = City of Kent; GD = Green Diamond; WDNR = WA Department of Natural Resources; WFP = WA Forest Practices.

Occupied Areas			Conservation Value Ratings		Economic Impacts and Exclusions					Other Relevant Impacts, Exclusions, or Ineligible DOD lands	
Subbasin Name	Watershed Name	Watershed Identification Code	Benefit of Designating Watershed	Benefit of Designating Connectivity Corridor*	Annual Total Impact	Tributary-only Impact	Eligible for Exclusion	Area Excluded	Reduction in Economic Impact	Indian Lands	HCP Lands or DOD Lands
Strait of Georgia	Bellingham Bay	1711000201	Medium		$8,970		-	-	-	-	WDNR/WFP
Strait of Georgia	Samish River	1711000202	Medium		$17,800		-	-	-	-	WDNR/WFP
Strait of Georgia	Birch Bay	1711000204	Medium		$7,760		-	-	-	-	WFP
Nooksack	Upper North Fork Nooksack River	1711000401	Medium		$188		-	-	-	-	WDNR/WFP
Nooksack	Middle Fork Nooksack River	1711000402	Medium		$1,310		-	-	-	-	WDNR/WFP
Nooksack	South Fork Nooksack River	1711000403	High		$4,890		-	-	-	Nooksack	WDNR/WFP
Nooksack	Lower North Fork Nooksack River	1711000404	High	High	$3,050	$2,880	-	-	-	Nooksack	WDNR/WFP
Nooksack	Nooksack River	1711000405	High	High	$7,650	$4,340	-	-	-	Lummi/ Nooksack	WDNR/WFP
Upper Skagit	Skagit River/Gorge Lake	1711000504	High		$179		-	-	-	-	WFP
Upper Skagit	Skagit River/Diobsud Creek	1711000505	High		$0	$0	-	-	-	-	WDNR/WFP
Upper Skagit	Cascade River	1711000506	High		$0		-	-	-	-	WDNR/WFP
Upper Skagit	Skagit River/Illabot Creek	1711000507	High	High	$376	$0	-	-	-	-	WDNR/WFP
Upper Skagit	Baker River	1711000508	Medium		$188		-	-	-	-	WFP
Sauk	Upper Sauk River	1711000601	High		$1,850		-	-	-	-	WFP
Sauk	Upper Suiattle River	1711000602	Medium		$0		-	-	-	-	-
Sauk	Lower Suiattle River	1711000603	High	High	$3,310	$3,130	-	-	-	-	WDNR/WFP
Sauk	Lower Sauk River	1711000604	High	High	$9,250	$8,810	-	-	-	Sauk-Suiattle	WDNR/WFP
Lower Skagit	Middle Skagit River/Finney Creek	1711000701	High	High	$6,900	$1,630	-	-	-	-	WDNR/WFP
Lower Skagit	Lower Skagit River/Nookachamps	1711000702	High	High	$10,700	$976	-	-	-	-	WDNR/WFP
Stillaguamish	North Fork Stillaguamish River	1711000801	High		$7,590		-	-	-	-	WDNR/WFP
Stillaguamish	South Fork Stillaguamish River	1711000802	High		$7,070		-	-	-	-	WDNR/WFP/Navy
Stillaguamish	Lower Stillaguamish River	1711000803	High	High	$6,350	$3,260	-	-	-	-	WDNR/WFP
Skykomish	Tye And Beckler Rivers	1711000901	Medium		$0		-	-	-	-	WDNR/WFP
Skykomish	Skykomish River Forks	1711000902	High	High	$3,390	$1,190	-	-	-	-	WDNR/WFP
Skykomish	Skykomish River/Wallace River	1711000903	High	High	$3,440	$2,990	-	-	-	-	WDNR/WFP
Skykomish	Sultan River	1711000904	Medium		$814		-	-	-	-	WDNR/WFP
Skykomish	Skykomish River/Woods Creek	1711000905	High	High	$6,160	$4,500	-	-	-	-	WDNR/WFP
Snoqualmie	Middle Fork Snoqualmie River	1711001003	High		$4,360		-	-	-	-	WDNR/WFP
Snoqualmie	Lower Snoqualmie River	1711001004	High	High	$9,420	$6,580	-	-	-	-	WDNR/WFP
Snohomish	Pilchuck River	1711001101	High		$6,680		-	-	-	-	WDNR/WFP
Snohomish	Snohomish River	1711001102	High	High	$33,400	$16,700	-	-	-	Tulalip	WDNR/WFP
Lake Washington	Cedar River	1711001201	Medium		$5,340		-	-	-	-	WFP/COK
Lake Washington	Lake Sammamish	1711001202	Low		$16,000		Yes	Entire	$11,680[1]	-	WDNR/WFP

Lake Washington	Lake Washington	1711001203	Low	Medium	$103,000	$19,500	Yes	Entire	$103,000	-	-
Lake Washington	Sammamish River	1711001204	Low		$23,800	$17,200	Yes	Entire	$19,278[1]	-	WDNR/WFP
Duwamish	Upper Green River	1711001301	High		$814		-	-	-	-	WFP
Duwamish	Middle Green River	1711001302	High	High	$814	$814	-	-	-	-	WDNR
Duwamish	Lower Green River	1711001303	High	High	$21,200	$10,100	-	-	-	-	-
Puyallup	Upper White River	1711001401	High		$789		-	-	-	-	WDNR/WFP
Puyallup	Lower White River	1711001402	High	High	$2,610	$2,420	-	-	-	Muckleshoot	WFP
Puyallup	Carbon River	1711001403	High		$2,600		-	-	-	-	WDNR/WFP
Puyallup	Upper Puyallup River	1711001404	High		$2,200		-	-	-	-	WFP
Puyallup	Lower Puyallup River	1711001405	High	High	$12,700	$8,540	-	-	-	Puyallup	WFP
Nisqually	Mashel/Ohop	1711001502	High		$2,080		-	-	-	-	WDNR/WFP
Nisqually	Lowland	1711001503	High	High	$4,490	$2,850	-	-	-	Nisqually	WFP/Army/Air Force
Deschutes	Prairie1	1711001601	Low		$0		-	-	-	-	WFP
Deschutes	Prairie2	1711001602	Low	Low	$1,140	$161	-	-	-	-	WFP
Skokomish	Skokomish River	1711001701	High		$3,380		-	-	-	Skokomish	WFP/GD
Hood Canal	Lower West Hood Canal Frontal	1711001802	Medium		$1,350		-	-	-	-	WDNR/WFP
Hood Canal	Hamma Hamma River	1711001803	High		$0		-	-	-	-	-
Hood Canal	Duckabush River	1711001804	High		$30		-	-	-	-	WDNR/WFP
Hood Canal	Dosewallips River	1711001805	High		$3,540		-	-	-	-	-
Hood Canal	Big Quilcene River	1711001806	Medium		$697		-	-	-	-	WDNR/WFP
Hood Canal	Upper West Hood Canal Frontal	1711001807	Medium		$1,860		-	-	-	-	WDNR/WFP/Navy
Hood Canal	West Kitsap	1711001808	High		$2,170		-	-	-	-	WDNR/WFP
Kitsap	Kennedy/Goldsborough	1711001900	Medium		$3,290		-	-	-	Squaxin Island	WDNR/WFP/GD
Kitsap	Puget	1711001901	Medium		$15,500		-	-	-	-	WDNR/WFP
Kitsap	Prairie3	1711001902	Low		$3,600		-	-	-	-	WDNR/WFP
Kitsap	Puget Sound/East Passage	1711001904	Low		$14,300					-	WFP
Kitsap	Chambers Creek	1711001906	Low		$873		-	-	-	-	Army/Air Force
Kitsap	Port Ludlow/Chimacum Creek	1711001908	Low		$3,030		-	-	-	-	WDNR/WFP
Dungeness/Elwha	Discovery Bay	1711002001	High		$254		-	-	-	-	WDNR/WFP
Dungeness/Elwha	Sequim Bay	1711002002	Medium		$188		-	-	-	Jamestown	WDNR/WFP
Dungeness/Elwha	Dungeness River	1711002003	High		$2,690		-	-	-	-	WDNR/WFP
Dungeness/Elwha	Port Angeles Harbor	1711002004	High		$1,750		-	-	-	-	WDNR/WFP
Dungeness/Elwha	Elwha River	1711002007	High		$29,800[2]		-	-	-	Lower Elwha	WDNR/WFP

Maximum economic impact if all areas were designated as critical habitat	$460,924
Total reduction in economic impact of exclusions	$133,958
Percent reduction in economic impact due to economic exclusions	29.1%
Percent reduction in miles designated as critical habitat due to economic exclusions	3.9%

Footnotes

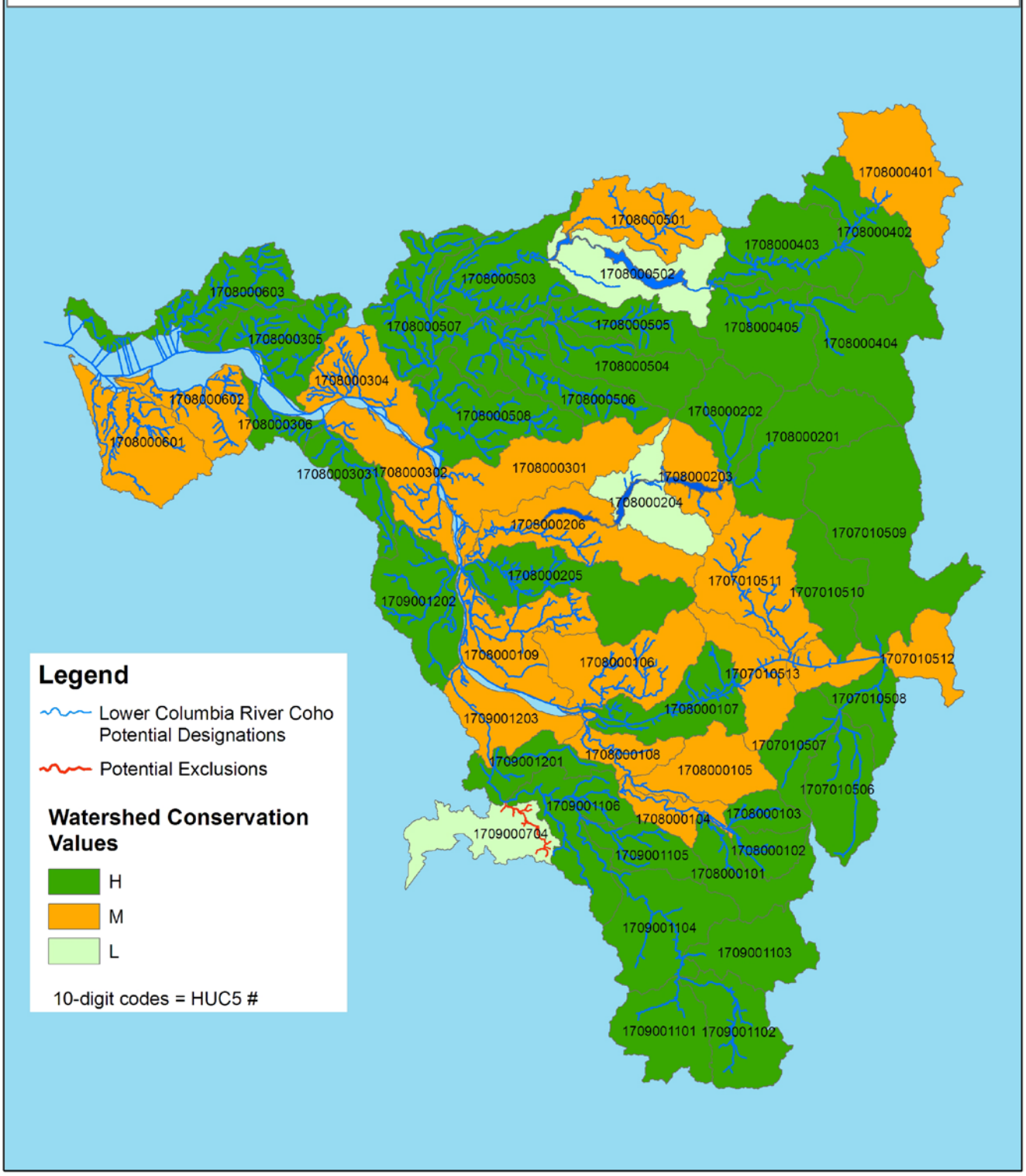
* Blanks for the conservation value of connectivity corridors indicate that a watershed does not include a rearing and migration corridor serving occupied watersheds upstream (i.e., there are no occupied upstream watersheds).

[1] Economic impact reduced to account for occupied reaches already excluded due to overlap with HCP or Indian lands.

[2] Includes unoccupied but essential stream reaches.

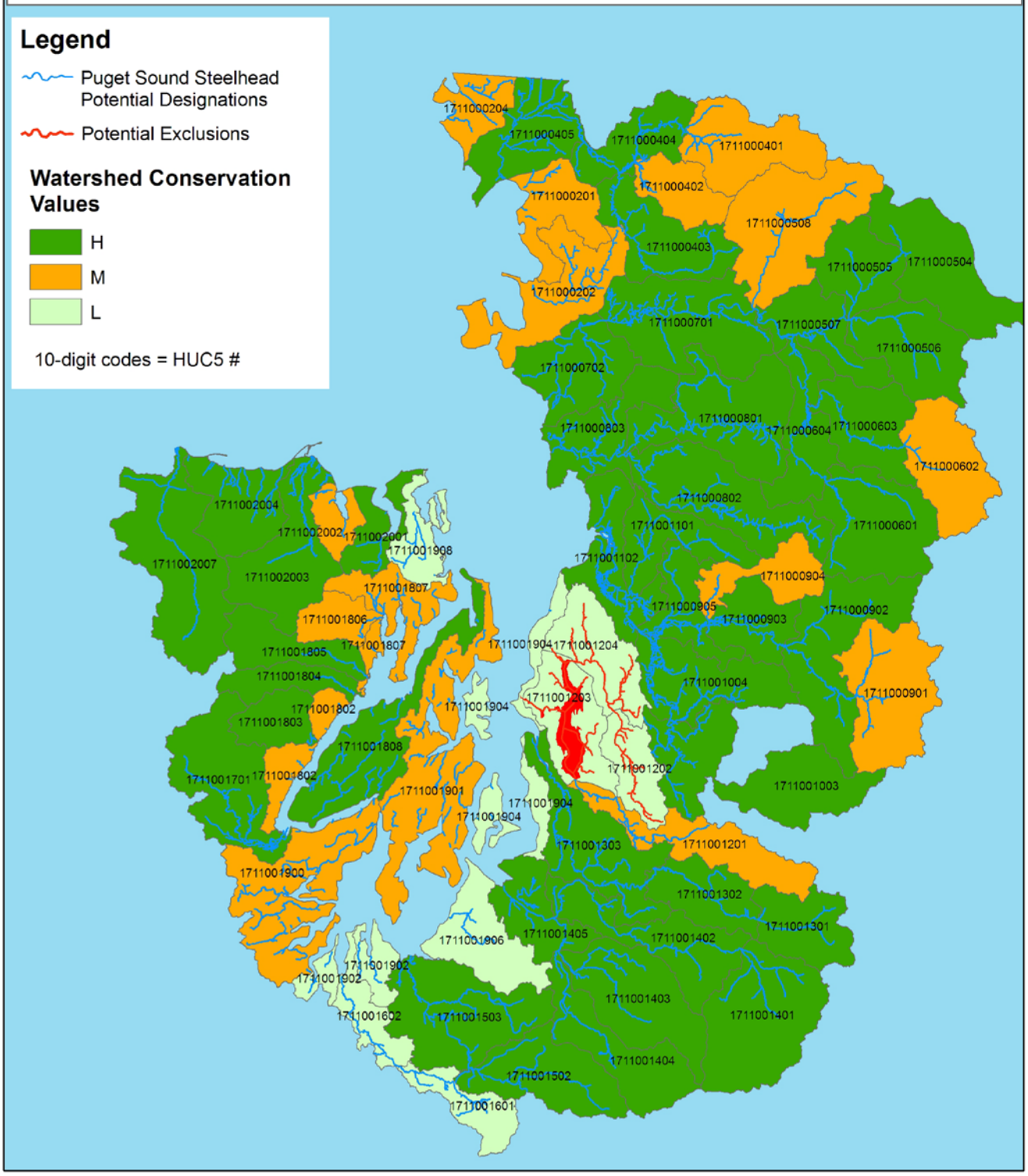
Lower Columbia River Coho

Watershed Conservation Value Ratings & Areas Proposed for Exclusion due to Economic Impacts



Puget Sound Steelhead

Watershed Conservation Value Ratings & Areas Proposed for Exclusion due to Economic Impacts



Appendix C – Consideration of Impacts on Indian Tribes

November 28, 2012

MEMO

To: PRD File

From: Donna Darm
Assistant Regional Administrator
Protected Resources Division, Northwest Region

Subject: Analysis of the Benefits of Designating versus the Benefits of Excluding Indian Lands from Critical Habitat for the Puget Sound Steelhead and Lower Columbia River Coho Distinct Population Segments

This analysis was prepared to inform the agency's exercise of discretion under Section 4(b)(2) of the Endangered Species Act (ESA), which allows the Secretary to exclude any particular area from critical habitat designation if the benefits of exclusion outweigh the benefits of designation, so long as exclusion will not result in extinction of the listed species. The analysis first examines the benefits of designating Indian lands for the subject Distinct Population Segments (DPSs) then examines the benefits of excluding lands of several Indian tribes[1]. The analysis concludes that the benefits of exclusion outweigh the benefits of designation because excluding Indian lands benefits the federal government's policy of promoting respect for tribal sovereignty and self-governance and benefits NMFS' relationships with the affected tribes, and the critical habitat area on Indian lands is a small proportion of total critical habitat for this species. The analysis further concludes that excluding this small amount of habitat will not result in extinction of the Puget Sound steelhead DPS. Based on this conclusion, we recommend the agency exercise its discretion under ESA section 4(b)(2) to exclude Indian lands from designation for the this DPS.

Background

The Northwest Region is recommending critical habitat designation for the Puget Sound steelhead DPS. There are 11 Indian tribes whose lands intersect with areas considered for critical habitat

[1] We reviewed information for lower Columbia River coho salmon but did not identify areas occupied by that species that overlap with Indian lands defined in the June 1997 Secretarial Order.

designation: Jamestown S'Klallam, Lower Elwha, Lummi, Muckleshoot, Nisqually, Nooksack, Puyallup, Sauk-Suiattle, Skokomish, Squaxin Island, and Tulalip (Figure 1).

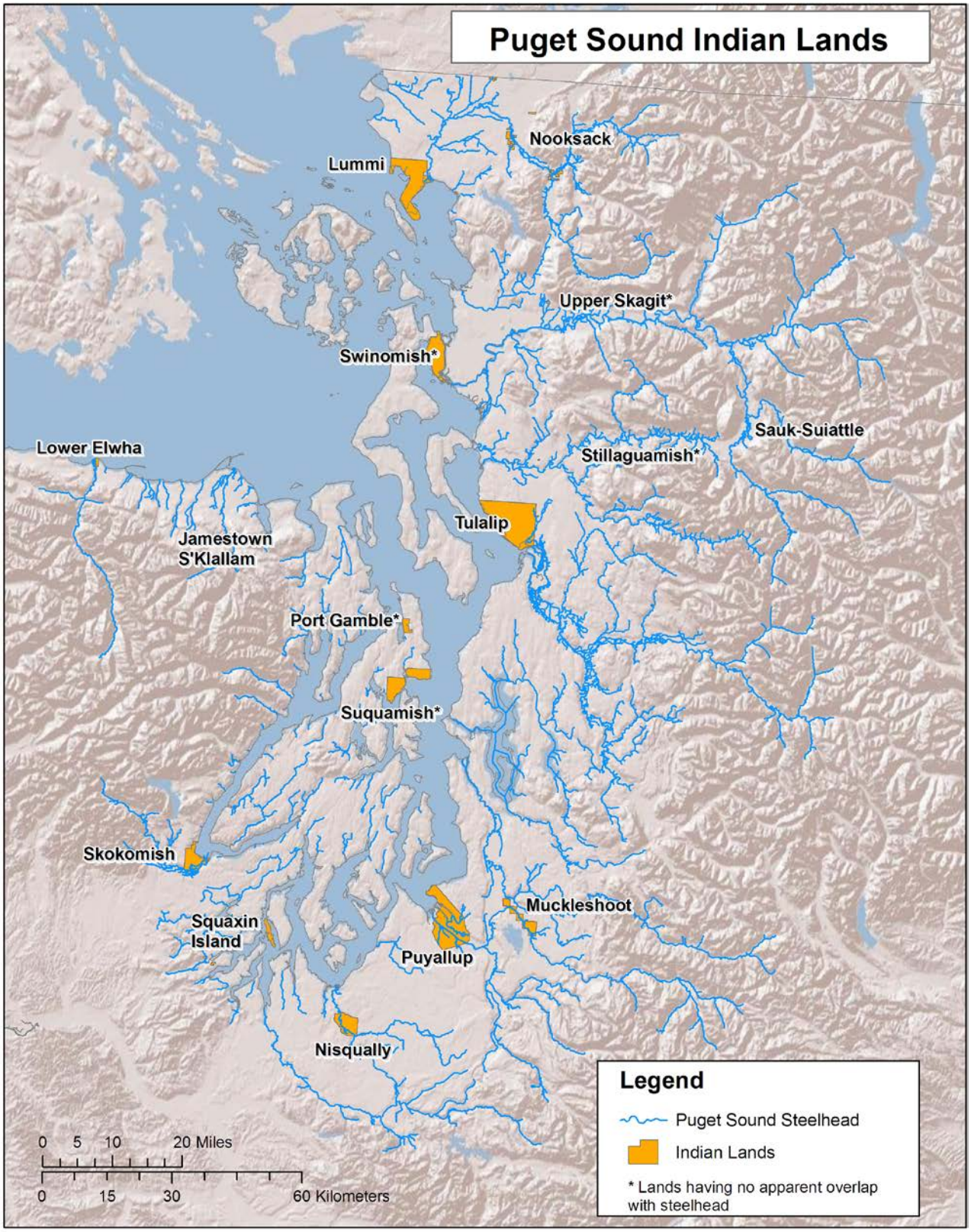
Section 7(a)(2) of the ESA requires federal agencies to ensure that any actions they authorize, fund or carry out are not likely to result in the destruction or adverse modification of designated critical habitat. Section 7(a)(2) also requires federal agencies to ensure such actions do not jeopardize the continued existence of the listed species. Section 3(5)(A) defines critical habitat, but areas meeting the definition are not automatically designated. Section 4(b)(2) establishes the process the agency is to use in designating critical habitat. It requires us to designate critical habitat for threatened and endangered species "on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat." This section grants the Secretary of Commerce discretion to exclude any area from critical habitat if he determines "the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat." The Secretary's discretion is limited, as he may not exclude areas if it "will result in the extinction of the species."

Unique Federal Relationship with Indian Tribes

Executive Order 13175 reiterates the unique relationship between the federal and tribal governments: The United States has a unique relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, Executive Orders, and court decisions. The nature of the relationship has been discussed from the earliest court cases (see Worcester v. Georgia). In his seminal work, Felix Cohen points out that, while treaties with Indian tribes are accorded the same dignity as that given to treaties with foreign nations, they differ in at least two important respects. Through the application of special canons of construction, Indian treaties are construed in favor of the Indians. Further, the courts will not find that Indian treaties have been abrogated by later treaties or legislation unless there is a clear and specific showing in the later enactment that abrogation was intended.

This description supports points that will be made later in this memo regarding the purpose of Indian lands as reserves for tribal governments. The reservations are both secure homelands for the tribes, as well as bases for their economic stability. The title to the land is held by the United States for the sole beneficial use of the tribes and their members. These are not federal lands reserved for public use, but rather "Indian lands" reserved for use by tribal governments (and individual tribal members).

Figure 1. Indian lands within the range of the Puget Sound steelhead DPS.



Unique Status of "Indian Country" and Indian Lands

Before addressing specific characteristics of Indian Land, it is helpful to look at the legal status of the areas within which they are found, i.e., "Indian Country." Indian Country is defined in 18 U.S.C. § 1151:

> *(a) all lands within the limits of any reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation,*
>
> *(b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State, and*
>
> *(c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.*

As Cohen (2005) points out, the Indian country statute is thus of general importance in defining the special territory where Indians are governed primarily by tribal and federal law rather than state law. "Indian lands" are defined in the Secretarial Order as "any lands title to which is either 1) held in trust by the United States for the benefit of any Indian tribe or individual, or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation." Additionally, it is a stated principle of the Secretarial Order that Indian lands "are not subject to the controls or restrictions set forth in federal public land laws. Indian lands are not federal public land or part of the public domain, but are rather retained by tribes or set aside for tribal use pursuant to treaties, statutes, court orders, executive orders, judicial decision, or agreements. Accordingly, Indian tribes manage Indian lands in accordance with tribal goals and objectives, within the framework of applicable laws." The above supports the conclusions of Sandi Zellmar's discussion in "Indian Lands as Critical Habitat for Indian Nations and Endangered Species: Tribal Survival and Sovereignty Come First":[2]

> *Thus, the trust responsibility arises not only from the nature of the relationship between tribes and the United States, but also from the massive transfer of lands from Indian Nations to the federal government and the retention and protection of a critical—though diminished—land base, as reflected in treaties. Just as sovereignty is at the very core of the trust responsibility, the tribal land base, retained by the tribes through treaties, is a critical component of sovereignty for most tribes.*

Executive Policy Guides Treatment of Indian Lands in Designating Critical Habitat

[2] Zellmar, Sandi B., South Dakota Law Review *[43 S.D.L. Rev. 381]* (1998)

In addition to Executive Order 13175, we have Department of Commerce direction, via the Secretarial Order, stating that Indian lands shall not be designated, nor areas where the "tribal trust resources … or the exercise of tribal rights" will be impacted, unless such lands or areas are determined "essential to conserve a listed species." In such cases we "shall evaluate and document the extent to which the conservation needs of the listed species can be achieved by designating only other lands." The Secretarial Order is consistent with the long-standing policies of the federal government regarding relationships with, and responsibilities to, Indian tribes. The Secretarial Order direction was developed in consultation with tribal governments, in recognition of their sovereign status and management authority. The Order's purpose, in part, is to help ensure the tribes do not bear a disproportionate conservation burden.

This direction recognized the unique status of Indian lands. In the words of the Secretarial Order, "Indian lands are not federal public lands or part of the public domain, and are not subject to federal public land laws." They were retained by tribes or were set aside for tribal use pursuant to treaties, statutes, judicial decisions, executive orders or agreements. These lands are managed by Indian tribes in accordance with tribal goals and objectives, within the framework of applicable laws (For a description of the federal government's relationship and responsibility regarding Indian lands and trust resources, see *United States v. Mitchell* (463 U.S. 206 (1983)).

<u>The Relationship between the Federal and Tribal Governments is Unique and Longstanding</u>
The federal government has long recognized the unique status of Indian tribes. The U.S. Constitution recognized tribal status via the "Indian commerce clause." Additionally, treaties are identified as being part of the "supreme law of the land." In addition to Constitutional recognition, there have been a number of executive branch expressions of the relationships[3] between the federal and tribal governments. Examples of executive direction include:

- **Presidential Memorandum of April 28, 1994**—directs executive departments and agencies to "assess the impact of federal government plans, projects, programs, and activities on tribal resources to assure that tribal government rights and concerns are considered during … [their] development."

- **Executive Order 13175 – Consultation and Coordination With Indian Tribal Governments (November 6, 2000)—**directs departments and agencies to "encourage Indian tribes to develop their own policies to achieve program objectives;" "where possible, defer to Indian tribes to establish standards;" "in determining whether to establish federal standards, consult with tribal officials as to the need for federal standards and any

[3] Rather than conduct an exhaustive historical review of executive (or judicial, for that matter) direction this memo discusses the most recent examples. For more detail on the history of federal-Indian relations see: (1) Cohen, F. 2005. Cohen's Handbook of Federal Indian Law, 2005 edition. LexisNexis Matthew Bender Publications, San Francisco, CA and (2) Getches, D.H., Wilkinson, C.F., and R.A. Williams, Jr. 2005. Cases and Materials on Federal Indian Law (5th edition).

alternatives that would limit the scope of federal standards or otherwise preserve the prerogatives and authority of Indian tribes."

- **Department of Commerce—American Indian and Alaska Native Policy (March 30, 1995)—** includes the following "Policy Principles":
  - Recognition of, and commitment to, "a government-to-government relationship with … Tribal governments." (First Principle)
  - Recognition that "the tribal right to self-government flows from the inherent sovereignty of tribes and nations and that Federally recognized tribes have a unique and direct relationship with the Federal government." (First Principle)
  - Recognition of trust responsibility and commitment to "consult and work with tribal governments prior to implementing any actions when developing legislation regulations, and/or policies that will affect tribal governments, their development efforts, and their land and resources" (Third Principle)
  - "Pledges to honor the Constitutional protections to Indian Commerce" by recognizing that tribes, as sovereign governments, "are responsible for the welfare and rights of their members and the right to regulate commerce within their reservation boundaries." (Fourth Principle)
  - Confirmation that the Department "will consult and work with tribal governments before making decisions or implementing policy, rules or programs that may affect tribes to ensure tribal rights and concerns are addressed." (Fifth Principle)
  - Recognition "that as a sovereign government" tribes are "responsible for the welfare and rights" of their membership and have "the right to regulate commerce within [their] boundaries." (Fifth Principle)
  - Commitment to identify and take "appropriate steps to remove any impediments to working directly and effectively with tribal governments." This includes applying the requirements of applicable executive orders (e.g., 13175 on intergovernmental partnerships (see above) and 12866 Regulatory Planning and Reviews) and legislative (e.g., Regulatory Flexibility Act) requirements "to design solutions and tailor Federal programs, when appropriate, to address specific or unique needs of tribal communities." (Sixth Principle)

- **Department of Commerce—American Indian and Alaska Native Consultation and Coordination Policy (July 3, 2012)—**The Department of Commerce published a draft "Consultation and Coordination Policy of the U.S. Department of Commerce" (77 FR 39464) that establishes the manner in which the Department works with federally-recognized Indian tribes when developing Department policies that have tribal implications. The policy reaffirms the unique government-to-government relationship that exists between Indian tribes and the Department of Commerce to support Tribes in the development of strong and stable economies able to participate in today's national and

global marketplace. Key elements of the consultation process defined in this policy include:

- *Ongoing communication shall be a regular part of the government-to-government relationship with tribal governments. The Department and operating units will engage in meaningful dialogue with Tribes regarding all policies that have tribal implications.*
- *Exchange of Information. The Department and operating units will make a reasonable effort to identify and provide timely and accurate information for consultation.*
- *Notification. The Department and operating units will notify Tribes of policies that have tribal implications. Follow-up may be necessary to ensure the appropriate tribal official has received the consultation notification and accompanying documents. These notifications do not replace or supersede any notifications that are required by statute or E.O. regarding tribal consultations.*
- *Consultation Planning. The Department and operating units will coordinate with tribal officials to plan logistical considerations for the consultation. The Department and operating units will, when practical, allow Tribes a reasonable amount of time to prepare for consultation and submit their views on policies that have tribal implications.*
- *Written Communication and Record-Keeping. When a consultation occurs between the Department or its operating units and Tribal officials, the Department or operating unit will provide the Tribal officials with a formal, written communication that summarizes the consultation, and responds to the issues and concerns, if any, identified during consultation. The Tribal Consultation Official or head of each operating unit conducting a consultation will maintain documentation addressing the consultation, tribal concerns, and recommendations in conformance with applicable records retention schedules.*

- **SECRETARIAL ORDER--*American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act.*** The secretaries of Commerce and of the Interior jointly issued the Secretarial Order in June 1997. The stated purpose of the Order is the clarification of "the responsibilities of the component agencies, bureaus and offices" of the Department "when actions taken under authority of the [Endangered Species] Act and associated implementing regulations affect, or may affect, Indian lands, tribal trust resources or the exercise of … tribal rights." The opening section continues by saying the Departments will strive "to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species, so as to avoid or minimize the potential for conflict and confrontation." Several sections of the Secretarial Order refer to, or specifically address critical habitat. The following is from Appendix Section 3(B):

    - *(2) Recognize the right of Indian tribes to participate fully in the listing process by providing timely notification to, soliciting information and comments from, and utilizing the expertise of, Indian tribes whose exercise of tribal rights or tribal trust*

resources could be affected by a particular listing. This process shall apply to proposed and final rules to… (ii) designate critical habitat.

- *(3) Recognize the contribution to be made by affected Indian tribes, throughout the process and prior to finalization and close of the public comment period, in the review of proposals to designate critical habitat and evaluate economic impacts of such proposals with implications for tribal trust resources or the exercise of tribal rights. The Services shall notify affected Indian tribes and the BIA, and solicit information on, but not limited to, tribal cultural values, reserved hunting, fishing, gathering, and other Indian rights or tribal economic development, for use in: (i) the preparation of economic analyses involving impacts on tribal communities; and (ii) the preparation of "balancing tests" to determine appropriate exclusions from critical habitat and in the review of comments or petitions concerning critical habitat that may adversely affect the rights or resources of Indian tribes.*

- *(4) In keeping with the trust responsibility,* [the Services] *shall consult with the affected Indian tribe(s) when considering the designation of critical habitat in an area that may impact tribal trust resources, tribally-owned fee lands, or the exercise of tribal rights. Critical habitat shall not be designated in such areas unless it is determined essential to conserve a listed species. In designating critical habitat, the Services shall evaluate and document the extent to which the conservation needs of the listed species can be achieved by limiting the designation to other lands.*

- *(6) Having first provided the affected Indian tribe(s) the opportunity to actively review and comment… provide affected Indian tribe(s) with a written explanation whenever a final decision on any of the following activities conflicts with comments provided by an affected Indian tribe: … (ii) designate critical habitat.*

In summary, as articulated in the February 16, 2000 *Federal Register* notice (65 FR 7764-7787, February 16, 2000) designating critical habitat:

- *…there is a unique and distinctive relationship between the United States and Indian tribes (as defined by the U.S. Constitution, treaties, statutes, executive orders, judicial decisions, and agreements), which differentiate tribes from the other entities that have a relationship with, or are affected by, actions of the federal government.*

- *This relationship has given rise to a special federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian tribes*

and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights.

- *Pursuant to the treaties, statutes, judicial decisions, executive orders and other agreements that define the relationship between the United States and tribes, lands have been retained by Indian tribes or have been set aside for tribal use. These lands are managed by Indian tribes in accordance with tribal goals and objectives, within the framework of applicable laws.*

Benefits of Designation

The principal benefit of designating critical habitat is that ESA section 7 requires every federal agency to ensure that any action it authorizes, funds or carries out is not likely to result in the destruction or adverse modification of the designated critical habitat. This complements the section 7 provision that federal agencies ensure their actions are not likely to jeopardize the continued existence of a listed species. Another possible benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area. This may focus and contribute to conservation efforts by clearly delineating areas that are important to species conservation.

In developing the critical habitat designation for the Puget Sound steelhead DPS, we first established those areas that meet the definition of critical habitat. We identified over 3,500 miles of occupied steelhead habitat in 66 watersheds within the Puget Sound basin. We determined the relative conservation value of each watershed (using a qualitative scale of high, medium, or low) to determine the benefit of designating any particular area in a way that would aid the 4(b)(2) balancing test (NMFS 2012a[4]). The higher the conservation value of an area, the greater the benefit of the section 7 protection.

In order to determine the true benefit of designation of a specific area, the likelihood of a section 7 consultation occurring in that area and the degree to which a consultation would yield conservation benefits for the species must be taken into consideration. Based on past consultations for other ESA-listed salmonids under NMFS jurisdiction, we estimated that 117 actions annually would require section 7 consultation within the watersheds being considered for Puget Sound steelhead critical habitat (NMFS 2010b[5]). The most common activity type that would need to be consulted on is in-stream work activities (estimated 73.7 consultations annually), followed by transportation

[4] National Marine Fisheries Service (NMFS). 2012a. Critical Habitat for Lower Columbia River Coho Salmon and Puget Sound Steelhead – Draft Biological Report prepared by NMFS NWR Protected Resources Division. October 2012.

[5] National Marine Fisheries Service (NMFS). 2012b. Economic Analysis of Critical Habitat Designation for the Distinct Population Segments of Lower Columbia River Coho and Puget Sound Steelhead. Draft Report prepared by Industrial Economics, Incorporated. October 2012.

projects (estimated 22.5 consultations annually) and development projects (estimated 7.5 consultations annually). Specific actions covered under these activities have the potential to negatively affect all essential habitat features of steelhead. Consultation would yield conservation benefits for the species by limiting or eliminating project-induced changes in steelhead habitat (e.g., the quality and quantity of water and substrate) and the processes that create complex habitat features such as large wood, natural cover, and flow regimes.

To determine the benefit of designating critical habitat on Indian lands we identified which specific areas that meet the criteria of critical habitat overlap with Indian lands (Table 1). The benefits of designation depend upon the extent of the habitat under consideration, its conservation value, and the number and types of federal activities in that area likely to undergo section 7 consultations (Table 2) if the specific area is designated as critical habitat. Of the 3,500 river miles that meet the definition of critical habitat, 70.5 river miles (2%) overlap Indian lands and are of medium or high conservation value. The primary types of federal activities occurring on Indian Lands that would require section 7 consultation if those lands are designated as critical habitat include instream work activities and transportation projects (NMFS 2012b).

Table 1. Summary of Tribes that have lands overlapping with specific areas for the Puget Sound steelhead DPS. The conservation value of the affected watershed and the miles of river overlapping with Indian lands are shown.

Indian Tribe	HUC5 Watershed(s) with Indian Lands Overlapping Steelhead Habitat Areas	Conservation Value of Affected Watershed(s)	Total River Miles of Habitat Overlapping Indian Lands
Lower Elwha Tribe	Elwha River - 1711002007	High	1.9
Jamestown S'Klallam Tribe	Sequim Bay - 1711002002	Medium	<0.01
Lummi Tribe	Nooksack River - 1711000405	High	2.8
Muckleshoot Tribe	Lower White River - 1711001402	High	6.7
Nisqually Tribe	Lowland - 1711001503	High	7.3
Nooksack Tribe	Nooksack River – 1711000405 Lower North Fork Nooksack River - 1711000404 South Fork Nooksack River - 1711000403	High High High	5.6 1.4 1.2
Puyallup Tribe	Lower Puyallup River - 1711001405	High	26.1
Sauk-Suiattle Tribe	Lower Sauk River - 1711000604	High	0.3
Skokomish Tribe	Skokomish River - 1711001701	High	13.4
Squaxin Island Tribe	Kennedy/Goldsborough - 1711001900	Medium	0.5
Tulalip Tribe	Snohomish River - 1711001102	High	5.2
		Sum	*70.5 mi*

Table 2. Forecasted annual number of future federal activities (subject to Section 7 consultation) likely to occur within critical habitat of each specific area that overlaps Indian Lands (from NMFS 2012b).

Watershed	Development	Federal Lands Mgt	Instream Work	Mining	Transportation	Utilities	Water Supply	Hydropower	Other	Total
South Fork Nooksack River - 1711000403	0.0	0.1	0.7	0.0	0.3	0.0	0.0	0.0	0.0	1.1
Lower North Fork Nooksack River - 1711000404	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.5
Nooksack River - 1711000405	0.0	0.0	1.3	0.0	0.5	0.1	0.0	0.0	0.0	1.9
Lower Sauk River - 1711000604	0.0	0.0	0.1	0.0	1.2	0.0	0.0	0.0	0.1	1.4
Snohomish River - 1711001102	0.9	0.0	3.7	0.0	1.9	0.7	1.0	0.0	0.5	8.7
Lower White River - 1711001402	0.1	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.5
Lower Puyallup River - 1711001405	0.1	0.1	1.4	0.0	1.1	0.0	0.2	0.0	0.0	2.9
Lowland - 1711001503	0.0	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.4	1.2
Skokomish River - 1711001701	0.0	0.0	1.2	0.0	0.3	0.0	0.0	0.0	0.0	1.5
Kennedy/Goldsborough - 1711001900	0.0	0.0	0.9	0.0	0.1	0.0	0.1	0.0	0.0	1.1
Sequim Bay - 1711002002	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Elwha River - 1711002007	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total	1.1	0.3	10.1	0	6.4	0.8	1.3	0	1.1	21.1

An additional benefit of designation would be to educate the public about the importance of these areas to steelhead conservation. Because the Indian lands being considered for exclusion are not public or private lands, and because the tribes themselves are keenly aware of the importance of their lands to steelhead conservation, we consider the education benefit of designating these Indian lands to be low.

Benefits of Exclusion

One benefit of excluding Indian lands from critical habitat designation is avoiding the cost of conducting a section 7 consultation on effects to critical habitat and avoiding project modification required solely to meet Federal obligations regarding destruction and adverse modification of critical habitat. Additional benefits of exclusion of Indian lands include enhanced conservation of the salmon and steelhead resource as a result of improved relationships with Indian tribes, and furthering the federal government policies to promote tribal sovereignty and self-governance.

Exclusion has Conservation Benefits that Offset the Benefits of Designation

Tribal governments are co-managers of salmon and steelhead resources throughout the region.

The co-manager relationship crosses tribal, federal, and state boundaries, due to the migratory characteristics of the species. The Regional Administrator, in testimony before the U.S. Senate Indian Affairs Committee (June 2003), emphasized the importance of this co-manager relationship:

> We have repeatedly stressed to the region's leaders, tribal and non-tribal, the importance of our co-management and trust relationship to the tribes. NOAA Fisheries enjoys a positive working relationship with our Pacific Northwest Tribal partners. We view that relationship as crucial to the region's future success in recovery of listed salmon.

Examples of that "positive working relationship" can be seen in federal-tribal participation within the *U.S. v. Oregon* and *U.S. v. Washington* framework and the participation of tribes on interstate (Pacific Fisheries Management Council) and international (Pacific Salmon Commission) management bodies. Additionally, there are innumerable local and regional forums and planning efforts in which the tribes are engaged with the federal government. These activities result in several benefits to the salmon species, by ensuring that habitat priorities are identified and addressed, that hatchery reforms are implemented, and that harvest does not preclude recovery. The participation of the tribes is crucial to the management and recovery of the listed species. Examples of tribal involvement in these arenas include:

Harvest. The impacts of harvest can be significant. The challenge is to design harvest programs that reduce the impact on listed fish to acceptable levels while also providing meaningful opportunities for tribal harvest to target more abundant stocks. Examples of ways to meet this challenge include:

- **Joint Resource Management Plans** (JRMP) are one of several categories of activities that can be exempted from the take prohibitions of Section 9 of the "limits." These limits on the application of take prohibitions are prescribed in ESA 4(d) Rule (50 CFR Part 223). In effect, this rule provides means for allowing take of threatened species when such occurs in conformity with NOAA-approved resource management plans developed jointly by the states and tribes under the jurisdiction of *U.S. v. Oregon* or *U.S. v. Washington*. Examples include: Salmon Fisheries and Steelhead Net Fisheries Affecting Puget Sound Chinook Salmon in 2003-2004, and Puget Sound Comprehensive Chinook Management Plan: Harvest Management Component.
- **Tribal Resource Management Plans** (TRMP) make up another category of activities covered by one of the limits included in the 4(d) rule noted above. TRMPs are developed by the tribe(s) to meet their management responsibilities and needs in a manner consistent with the purposes of the ESA. Examples include: Tribal Chinook Research in Puget Sound, Washington; Tribal Resource Management Plan for Threatened Snake River Spring/Summer Chinook on the Imnaha River Subbasin in 2002-2004, prepared by the Nez Perce Tribe; and Tribal Resource Management Plan for Snake River Spring/Summer

Chinook in the Grand Ronde River in northeast Oregon prepared by the Umatilla Tribe in 2004.

- **Pacific Fishery Management Counci**l (PFMC) is a process that sets annual fisheries in federal waters from three to 200 miles off the coasts of Washington, Oregon, and California.
- **Pacific Salmon Commission** (PSC) was established by treaty between Canada and the United States "for the conservation, rational management, and optimum production of Pacific Salmon." The PSC is an eight-person body made up of four Commissioners each from the United States and Canada. Each Commissioner has an alternate. Of the four U.S. Commissioners, one represents Alaska; one represents the states of Washington and Oregon; one represents the treaty tribes in Washington, Oregon, and Idaho; and one represents the federal government. The Alternate Commissioners are used effectively to broaden the body's regional representation of the Commissioners. For example, the tribes' Commissioner and alternate Commissioner are involved in the *U.S. v. Washington* and *U.S. v. Oregon* cases, respectively, ensuring that both cases are knowledgeably represented in Commission deliberations and that the interests of commercial and recreational fisheries as well as federal, state, and tribal governments are also represented. The United States and Canada each have one vote within the Commission, so there must be consensus for bilateral decisions to be made. Within the U.S. Section, the voting rules, which are prescribed in the implementing legislation, give the tribal Commissioner one of the three U.S. votes (the federal Commissioner has no vote.) Tribal representation is also included on the Southern and Fraser River Panels, which focus on particular fisheries and make recommendations to the Commission. The voting mechanisms and representational structure embodied in the U.S. Section of the PSC institutionalize tribal co-management authority and ensure the tribes a "seat at the table" for all matters relating to implementation of the Pacific Salmon Treaty. Several technical committees provide technical management advice to the Commission and panels; state, federal and tribal biologists have been appointed to and serve on the Committees. A great number of fishing regimes and fishery management plans have been developed within the PSC forum, all with tribal involvement. As examples:
    - The Fraser River Panel manages the Fraser sockeye and pink fisheries in northern Puget Sound and southern British Columbia every summer. The U.S. Section of the Fraser River Panel includes a tribal Panel Member (and an alternate), whose concurring vote is required before the Panel can make a decision.
    - A comprehensive coho management regime was negotiated and agreed to within the PSC process in 2002. Tribal and NOAA Fisheries, as well as Washington and Oregon representatives, were involved throughout the negotiation of this plan.
    - Chinook fisheries from Alaska to Oregon are managed pursuant to a comprehensive plan ("chinook annex") embodied in the Pacific Salmon Treaty. This plan was negotiated with tribal involvement, and among its intents were limiting the impact

of fisheries on weak chinook stocks and returning a share of the impacts to terminal areas, thereby addressing "north-south" allocation of chinook salmon (i.e., sharing between Alaska and the "southern" states and the treaty tribes of far-north migrating chinook stocks).

- **U.S. v. Washington** resulted in the federal court requiring the co-management by federal agencies, states, and tribes concerning fisheries in Puget Sound. The *Puget Sound Salmon Management Plan* is a joint co-management plan to manage the harvest and other activities associated with Puget Sound salmon.
- **U.S. v. Oregon** resulted in the federal court overseeing the co-management by federal agencies, states, and tribes of fisheries in the Columbia River and its tributaries. The *Columbia River Fisheries Management Plan* is a joint co-management plan to manage the harvest and other activities associated with Columbia River salmon.
- **In-season management** involves cooperation among federal, tribal, and state biologists in analyzing the size of fish runs as salmon and steelhead migrate back to their rivers and hatcheries of origin.

Hatcheries. The impacts of hatchery programs can be significant. The challenge is to identify where (spatially and temporally) to place the artificial propagation efforts to meet both harvest and recovery needs. Examples of federal-tribal cooperation in meeting the challenge include:

- **Hatchery Genetic Management Plans** (HGMP) are a mechanism for addressing the take of certain listed species that may occur as a result of artificial propagation activities. They are developed by federal agencies, states, and tribes concerned with the management of hatchery programs that will lead to fish recovery. NOAA Fisheries reviews HGMPs for consistency with the ESA.

Hydropower. The Federal Columbia River Power System (FCRPS) has acknowledged adverse impacts on listed salmonids. It is critical to include tribal co-managers in the decision-making process.

- **Federal Columbia River Power System Implementation Team** is made up of program- and policy-level representatives from Columbia River Indian Tribes, federal operating and regulatory agencies, states, and Mid-Columbia Public Utility Districts. The purpose of the Implementation Team and its technical teams (System Configuration Team; Water Quality Team; Transboundary Gas Group; and Technical Management Team) is to provide a mechanism for coordination, decision-making, and appropriate and timely implementation of NOAA Fisheries' FCRPS BiOp. The Columbia Basin Fish Accords signed in 2008 established a partnership among five Northwest tribes (as well as the Columbia River Inter-Tribal Fish Commission, CRITFC), three federal action agencies (BPA, the Corps and Reclamation) and three states. The Accords are designed to supplement the FCRPS BiOp and the Northwest Power and Conservation Council's Fish and Wildlife Program by providing firm commitments

to hydro, habitat and hatchery actions, greater clarity about biological benefits and secure funding for 10 years. Under these agreements, the federal agencies, tribes and states will work together as partners to provide tangible survival benefits for salmon recovery, by upgrading passage over federal dams, by restoring river and estuary habitat, and by creative use of hatcheries.

- **Bonneville Dam Adult Fish Age and Fin Clip Reports** summarize fish passage age statistics as sampled at Bonneville Dam by CRITFC staff on a weekly basis. Mainstem Dam Adult Ladder Counts provide current tables of fish passage numbers at dams throughout the Columbia and Snake rivers.

Habitat. Habitat restoration is recognized as critical to the recovery of salmonids. Research is needed to identify the appropriate habitat on which to focus, as well as to restore it in the most efficient manner. Examples of activities involving tribes as co-managers in addressing habitat concerns include:

- **Salmon and Steelhead Habitat Inventory and Assessment Project**, a computerized information system developed by the Washington Department of Fish and Wildlife, the tribes, and others to catalogue details about habitat and to map fish stock distribution and status.
- **The Limiting Factors Application,** a computerized information system hosted by the Columbia River Inter-Tribal Fish Commission, combines various assessments of factors limiting salmon distribution and abundance, so that they may be viewed and queried by a user.
- **Pacific Coastal Salmon Recovery Fund** was established in FY 2000 to provide grants to the states and tribes to assist state, tribal, and local salmon conservation and recovery efforts. Congress specifically appropriated funds for Columbia Basin and coastal tribes, in recognition of the critical role they play in salmonid management and eventual recovery.

Recovery Planning. NOAA Fisheries is responsible for the development of Recovery Plans for listed species. With species that encompass such vast geographic areas, it is essential to involve co-managers. The tribes are integral to the successful development of recovery plans. Examples include:

- **Shared Salmon Strategy for Puget Sound**, a cooperative effort that links ongoing wild salmon recovery initiatives at the tribal, state, federal, and local levels to create a plan that is viable and cost-effective. It establishes, organizes, and manages these links; identifies necessary long- and short-term actions, and coordinates funding needs; and proposes laws or policies needed to support wild salmon recovery. Several tribes serve as Lead Entities, i.e., local watershed-based organizations that develop local salmon habitat recovery strategies and manage projects to implement the strategies. Tribal representatives also serve on the Puget Sound Recovery Implementation Team, a regional advisory group that provides scientific support and guidance for salmon recovery.

- **Technical Recovery Teams** are responsible for establishing biology-based ESA recovery goals for listed species. The TRTs include tribal biologists who serve as science advisors to recovery planners. TRTs are charged with identifying independent salmon and steelhead populations within each DPS, recommend viability criteria, and analyze factors that limit species survival. The TRTs provide the technical basis for recovery plans and advise NOAA and other recovery planners.

Exclusion Furthers Federal Policies Promoting Tribal Sovereignty and Self-Governance
In the current designation effort, we have contacted all potentially affected tribes. Additionally, a number of meetings were held with tribes and intertribal organizations (e.g., the Northwest Indian Fisheries Commission). We have also received numerous letters from tribes in response to our previous communications, comments to the Advance Notice of Proposed Rulemaking (68 FR 35926, September 29, 2003), and comments on the proposed designation (69 FR 74572, December 14, 2004). In all of these communications and conversations, the tribes unanimously expressed their objections to Indian lands being designated as critical habitat.

- ***Interference with tribal sovereignty, including tribal reserved rights to manage their own lands and resources.*** One of the essential features of tribal sovereignty is the jurisdictional control the tribal government is able to exercise over its (and its members) land. Numerous judicial opinions have stated that these essential government features include the ability to levy taxes and develop/enforce zoning requirements on its membership. In 2000, we recognized the inherent right of the tribe to manage the land set aside for the specific uses of the tribes and their members. EO 13175 states, in part, that "when formulating and implementing policies that have tribal implications," we will, "to the extent permitted by law… defer to Indian tribes to establish standards, and… consult with tribal officials as to the need for federal standards and any alternatives that would limit the scope of federal standards or otherwise preserve the prerogatives and authority of Indian tribes."
- ***Economic impacts to both growth and stability.*** Tribes face the unique circumstance of being restricted to specific and limited geographic locations. Such restrictions have the result of limiting the economic opportunities open to the tribal governments. Further exacerbating the limitations inherent to the somewhat fixed land status (spatially) is the fact that the potential effect of designating critical habitat could further negatively impact the relatively limited economic development opportunities for tribes. Additionally, the economic options such as transfers or mobility of land ownership, are extremely limited. Tribal members, like their tribal government, are not in position to sell their land and move to some other less affected area.
- ***Violation of Trust Responsibility***. An essential feature of Trust Responsibility is the management of tribal resources by federal agencies, tribes themselves under Indian Self-Determination or Tribal Self-Governance arrangements, or through federal-tribal co-management for the benefit of Indian tribes and/or Indian individuals. In the arena of salmonid management, the tribes and we are co-managers (with the states). The co-manager relationship

includes all aspects of salmon and steelhead management: hatchery development, production, and management; management of natural stocks; and harvest management. In all of these aspects of the conservation and management of the species, including listed stocks, the fish managing partners (NOAA Fisheries, tribal governments and their fisheries programs, and states) work together cooperatively to ensure the conservation and recovery of fish as both ESA-listed species but also as trust resources. To designate critical habitat on Indian lands would be viewed as a negative impact to that relationship and would place future cooperation in jeopardy.

- ***Contrary to Secretarial Order requirements*.** The Secretarial Order contains both general and specific guidance regarding the potential designation of critical habitat on Indian lands. The general guidance reinforces the "consultation principles" of the federal government, i.e., whenever the federal government is embarking on a course of action that has the potential to affect tribes, the action agency should consult with the affected tribal government. Specific guidance includes:
    - Evaluating critical habitat proposals with implications for tribal trust resources or the exercise of tribal rights.
    - Soliciting information from potentially affected tribes on the various impacts that may result from the designation.
    - Preparing economic analyses with impact tribal communities.
    - Preparing balancing tests to determine appropriate exclusions from critical habitat and in review of comments or petitions concerning critical habitat that may adversely affect the rights or resources of Indian tribes.
    - Before designating Indian lands where "the exercise of tribal trust resources… or the exercise of tribal rights" will be impacted, first determine if those Indian lands are "essential to the conservation [of the] species" and, when such is the case, we will "evaluate and document the extent to which the conservation needs of the listed species can be achieved by" designating only other lands.
- *Harm to, or undermining of, the NOAA Fisheries–tribal co-manager relationship regarding listed salmon.* In addition to the above individual aspects of the federal-tribal government relationships, there are unique co-manager relationships between the governments regarding salmonids. This unique relationship is exhibited, in part, through a variety of work projects that address areas such as harvest, hatchery, habitat, and hydropower (see above). If tribal lands are designated as critical habitat the practical consequence would be the diversion or re-direction of scarce staffing and financial resources. Tribal governments have consistently stated that their staff and financial resources are extremely limited. A requirement for additional consultations would likely result in diverting program resources from current management and conservation efforts.

<u>Balancing the Benefits of Designation with the Benefits of Exclusion</u>

Designation of the Indian lands under consideration would require federal agencies to ensure that any actions they carry out, fund or permit are not likely to adversely modify the areas designated. For Puget Sound steelhead, critical habitat areas overlap with reservation boundaries on less than 70.5 stream miles. The actual overlap is less because not all lands within those boundaries are Indian lands. Information is not available to quantify the exact number of stream miles. The activities likely to have federal involvement and therefore undergo consultation include permits for instream work and NPDES, transportation projects, dredging, utilities, mining and dams. This overlap represents less than 2 percent of the total miles of habitat available.

Regarding the educational benefit of critical habitat designation, in numerous letters to NOAA Fisheries, the tribes have documented how they are already working with us to address the habitat needs of the species on these lands as well as in the larger ecosystem, and they are fully aware of the conservation value of their lands.

The major benefit to be derived from the exclusion of Indian lands is the positive, productive effect on our co-management and working relationship with the tribes. The federal and tribal governments have a long relationship. The tribes are active partners and co-managers in a wide variety of essential activities addressing harvest, hatcheries, hydropower, habitat and recovery planning. Encouraging and supporting the continued participation by the tribes in these efforts, including the many in which they take the lead, is vital to the recovery of the listed species. The region's tribal governments have repeatedly stated they are constantly confronting the allocation of scarce resources (personnel and financial) to address salmonid management. These resources are already committed to participation in the numerous regional planning and management forums, as well as the development and implementation of specific plans and projects that address habitat restoration, harvest management, and production programs. Including tribal lands within critical habitat designation world force the reallocation of these scarce resources to address additional regulatory and consultation requirements. This would be viewed as an unnecessary competitive pressure on the tribal resources leading the tribal governments to be less inclined, or able, to participate in these current and ongoing protection and conservation efforts we view as crucial to the restoration and recovery of the species. Exclusion of Indian lands would also further federal government policies to promote tribal sovereignty and self-governance. These policies include:

- The Secretarial Order states that Indian lands will not be designated as critical habitat unless they are essential for conservation, i.e., after the Secretary determines that the designation of all other non-Indian land is insufficient to conserve the species.

- The exclusion is consistent with the April 28, 1994 executive memorandum and executive order 13175.

- The exclusion is consistent with past Federal Register-published secretarial determinations (65 FR 7764-7787, February 16, 2000).

- The exclusion is consistent with the recognition of the sovereignty of tribal governments and their jurisdiction over Indian and (where documented) non-Indian lands.

- The exclusion is consistent with departmental/agency trust responsibility in that it supports an essential purpose of the Indian lands, including economic security; it recognizes tribal primacy regarding the management of tribal lands; and it complies with direction/statements found in the Secretarial Order and EO 13175.

- The exclusion supports and affirms the federal-tribal co-manager partnership crucial to the conservation and recovery of the species.

Conclusion

Based on the foregoing analysis, I conclude that the benefits of excluding the identified Indian lands outweigh the benefits of designating those lands because: 1) excluding Indian lands has offsetting conservation benefits for Puget Sound steelhead and 2) excluding Indian lands benefits the federal government's policy of promoting respect for tribal sovereignty and self-governance. This conclusion is consistent with relevant judicial decisions on what to consider in determining critical habitat. *Center for Biological Diversity v. Norton*, 240 F.Supp.2d 1090, 1005 (2003), found that "[i]t is certainly reasonable to consider a positive working relationship relevant, particularly when that relationship results in the implementation of beneficial natural resource programs, including species preservation." *Douglas County v. Babbit*, 48 F.3d 1495 (1995), found that the impacts relevant for consideration are those which further the purposes of the ESA.

Further analysis is necessary to determine whether excluding these lands will result in extinction of the Puget Sound steelhead DPS, after taking into consideration the conservation needs of the DPS and any other potential exclusions being considered.

Appendix D – Consideration of Impacts on HCPs

November 28, 2012

MEMO

To: PRD File

From: Donna Darm
Assistant Regional Administrator
Protected Resources Division, Northwest Region

Subject: Analysis of the Benefits of Designating versus the Benefits of Excluding Lands Subject to Habitat Conservation Plans (HCP) from Critical Habitat for the Lower Columbia River Coho and Puget Sound Steelhead Distinct Population Segments

This analysis was prepared to inform the agency's exercise of discretion under Section 4(b)(2) of the Endangered Species Act (ESA), which allows the Secretary to exclude any particular area from critical habitat designation if the benefits of exclusion outweigh the benefits of designation, so long as exclusion will not result in extinction of the listed species.

Background

Conservation agreements with non-Federal landowners (e.g., HCPs) enhance species conservation by extending species' protections beyond that available through section 7 consultations. We have encouraged non-Federal landowners to enter into conservation agreements, based on a view that we can achieve greater species' conservation on non-Federal land through such partnerships than we can through coercive methods (61 FR 63854, December 2, 1996).

Section 10(a)(1)(B) of the ESA authorizes us to issue permits to non-federal landowners for the incidental take of endangered and threatened species. This permit allows a non-federal landowner to proceed with an activity that is legal in all other respects, but that results in the incidental take of a listed species (i.e., take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity). The ESA specifies that an application for an incidental take permit must be accompanied by a conservation plan, and specifies the content of such a plan. The purpose of such an HCP is to describe and ensure that the effects of the permitted action on covered species are adequately minimized and mitigated, and that the action does not appreciably reduce the likelihood of the survival and recovery of the species.

In previous critical habitat designations for West Coast salmon and steelhead (70 FR 52630, September 2, 2005), we have exercised discretion to exclude some (but not all) lands covered by

an HCP from designation after concluding that benefits of exclusion outweighed benefits of designation. For lands covered by an HCP, the benefits of designation typically arise from section 7 protections as well as enhanced public awareness. The benefits of exclusion generally include relieving regulatory burdens on existing conservation partners, maintaining good working relationships with them (thus enhancing implementation of existing HCPs), and encouraging the development of new partnerships.

We contacted the HCP landowners[1] whose lands were excluded in our 2005 designations (Washington Department of Natural Resources, Green Diamond Resources Company, and West Fork Timber Company) to discuss the critical habitat designations for lower Columbia River coho and Puget Sound steelhead. We also contacted several additional landowners whose HCPs had been authorized subsequent to our 2005 critical habitat designations (Washington Forest Practices, City of Portland-Bull Run Water Supply, City of Kent Water Supply) or were existing then but now determined to overlap with new habitat areas being considered for designation (J.L. Storedahl and Sons). All of them except one (City of Portland) requested that their lands be excluded from designation as critical habitat for these DPSs and were of the opinion that exclusion would be a benefit and enhance the partnership between us.

Habitat Conservation Plans in the Statutory Context

The ESA and our implementing regulations include two important mechanisms for promoting conservation of listed salmon and steelhead. Under Section 7, federal agencies must ensure their actions are not likely to jeopardize species' continued existence or destroy or adversely modify designated critical habitat. This requirement protects listed salmon and steelhead on federal lands and whenever a federal permit or funding is involved in non- federal actions, but its reach is limited. The vast majority of activities occurring in riparian and upland areas on private and state-owned lands do not require a federal permit or funding and are not reached by section 7 (in contrast to instream activities, most of which do require a federal permit).

The second important protection is that no one may "take" a listed salmon or steelhead, with take broadly defined to include "harm." The ability of the ESA to induce landowners to adopt conservation measures lies in the take prohibitions of section 9(a) and 4(d), and many landowners have chosen to put conservation plans in place to avoid any uncertainty. The primary mechanism for them to do this is to develop a habitat conservation plan, or HCP, under the provisions of section 10 of the ESA.

Section 10 of the ESA as originally enacted in 1973 contained provisions allowing for the issuance of permits authorizing the taking of listed species under very limited circumstances for private entities. However, these provisions were not flexible enough to address situations in which a property owner's otherwise lawful activities might result in an incidental take. The 1982 Amendments to the ESA sought to address this concern by including provisions under Section 10

[1] Memo from S. Stone to NMFS PRD file, dated November 2, 2012.

that allowed us to issue permits authorizing the incidental take of listed species in the course of otherwise lawful activities, provided those activities were conducted according to an approved conservation plan and complied with several provisions. In adopting these amendments, Congress emphasized the importance of "creative partnerships" between the private sector and local, state and federal agencies for the protection of endangered species and habitat conservation (H.R. Rep. No. 835, 97th Congress, 2nd Session 31 (Reprinted in 1982 U.S. Code Congressional and Administrative New §2807, 2831)).

To receive a permit under Section 10, a landowner must develop an HCP that meets several criteria. The HCP must specify the impact likely to result from take, what steps the applicant will take to minimize and mitigate such impacts, and the funding available to implement such steps. The applicant must have considered alternative actions and explained why other alternatives are not being pursued, and we may require additional actions necessary or appropriate for the purposes of the plan. Before an HCP can be finalized, we must conclude that any take associated with implementing the plan will be incidental, that the impact of such take will be minimized, monitored and mitigated, that the plan is adequately funded, and that the take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The HCP undergoes environmental analysis under the National Environmental Policy Act and we conduct a section 7 consultation with ourselves to ensure granting the permit is not likely to jeopardize the continued existence of the HCP-covered species or destroy or adversely modify designated critical habitat.

Because HCPs provide an important voluntary mechanism to secure conservation of listed salmon and steelhead on private and state-owned lands, we have since 1994 actively sought to promote the HCP program by developing incentives for landowners. One of the most important was the "No Surprises" policy, which we adopted in August of 1994 (63 FR 8859, Feb 23, 1998). It is our understanding of congressional intent, and our view of the value of the HCP program generally, that:

- Congress thus envisioned and allowed the Federal government to provide regulatory assurances to non-Federal property owners through the section 10 incidental take permit process. Congress recognized that conservation plans could provide early protection for many unlisted species and, ideally, prevent subsequent declines and, in some cases, the need to list covered species.
- The Services decided that we needed a clearer policy regarding the assurances provided to landowners entering into an HCP. This need prompted the development of the No Surprises policy, which was based on the 1982 Congressional Report language and a decade of working with private landowners during the development and implementation of HCPs. The Services believed that non-Federal property owners should be provided economic and regulatory certainty regarding the overall cost of species conservation and mitigation, provided that the affected species were adequately covered by a properly functioning HCP, and the permittee was properly implementing the HCP and complying with the terms and conditions of the HCP permit in good faith. A driving concern during the development of

> the policy was the absence of adequate incentives for non-Federal landowners to factor endangered species conservation into their day-to-day land management activities (63 FR 8859, February 23, 1998)

Our experience working with private landowners, as described above and in subsequent implementation of the HCP program, has informed our balancing of benefits of excluding or including HCP-covered lands in critical habitat designation.

Impacts of designation

The primary effect of critical habitat designation is that it imposes the requirement on federal agencies to ensure their actions are not likely to destroy or adversely modify the designated habitat. The impact of designating critical habitat on non-federal lands covered by an approved HCP or other type of conservation agreement depends upon the type and extent of federal activities expected to occur in that area in the future. Activities may be initiated by the landowner, such as when the landowner seeks a permit for bank armoring, water withdrawal or dredging. Where the area is covered by an HCP, the activity for which a permit is sought may or may not be covered by the HCP. For example, an HCP covering forestry activities may include provisions governing construction of roads, but may not include provisions governing bank armoring or pesticide application. The activity may be initiated by the federal agency without any landowner involvement, such as when a federal agency is involved in building a road or bridge, dredging a navigation channel, or applying a pesticide on federal land upstream of the HCP-covered area.

The designation of critical habitat may also have impacts that are unrelated to section 7's requirements. For example, state or county environmental laws or regulations may contain provisions that are triggered if a state- or county-regulated activity occurs in federally-designated critical habitat. Another possibility is that critical habitat designation could have "stigma" effects, or impacts on the economic value of private land that are not attributable to any direct restrictions on the use of the land.

Benefits of designation versus exclusion generally

Landowners often are opposed to a critical habitat designation on their land. In previous rulemaking (70 FR 52630, September 2, 2005) we received comments asserting that landowners frequently view designation of critical habitat as imposing a burden and exclusion from critical habitat as removing that burden. Many commenters also asserted that excluding lands covered by HCPs would strengthen the federal-private relationship. Benefits of exclusion generally cited in the comments included: avoiding damage to, or enhancing, the relationship between the HCP partner and our agency; reducing the regulatory burden imposed by the ESA as well as state and local requirements such as Washington's State Environmental Policy and Growth Management Acts; reducing uncertainty associated with these regulatory requirements; and providing incentives to other landowners to seek agreements with us for conserving salmon and steelhead.

In contrast, we also received comments from the city of Seattle, which has an HCP in place, noting the benefits of designation and stated that it entered into its HCP not to avoid designation but because it is a useful mechanism by which to formulate and implement a comprehensive, scientifically-based conservation strategy for the city's water supply. This HCP partner therefore welcomed the designation of critical habitat on its lands. Similarly, the City of Portland recently submitted comments in support of designating critical habitat in areas associated with the city's Bull Run water supply HCP.

Based on this information, we conclude that some landowners with current HCPs view exclusion as having benefits to them and to our relationship; that some landowners with current HCPs do not view exclusion as benefiting them; and that some landowners contemplating a conservation agreement with us may view our exclusion of current HCPs as an incentive to seek HCPs on their land. On the evidence before us, therefore, we cannot draw the conclusion that all landowners with HCPs view designation of critical habitat as interfering with our relationship. We could draw that conclusion only with respect to the landowners who raised concerns: Washington Department of Natural Resources on its own behalf (certain state-owned lands) and on behalf of private forested land owners covered by the states' forest practices HCP; Green Diamond Resources Company; West Fork Timber Company; City of Kent (Water Supply HCP); and J.L. Storedahl and Sons (Gravel Mining HCP). Where an HCP partner has affirmatively requested designation, exclusion is likely to harm rather than benefit the relationship. Where an HCP partner has remained silent on the benefit of exclusion of its land, we will not assume that exclusion will enhance the relationship. Similarly, we do not believe it provides an incentive to other landowners to seek an HCP if our exclusions are not in response to an expressed landowner preference. In the discussion below we therefore analyze the benefits of designation versus the benefits of exclusion only with respect to these landowners.

Balancing Benefits of Designation against Benefits of Exclusion

In analyzing the benefits of designating these HCP-covered areas, we considered the number of stream miles affected and the number and type of federal activities expected to occur in the area that would likely undergo a section 7 consultation. We also considered which federal activities are covered by the HCP and which are not, and the extent to which a section 7 consultation on that particular activity would result in beneficial changes to the proposed action over and above what would be obtained under the HCP.

In analyzing the benefits of excluding these HCP-covered areas, we considered the value of the HCP for species conservation and the importance of its ongoing implementation. We also considered the extent to which the landowner views exclusion as enhancing our ongoing partnership. Where the HCP provides greater conservation benefits than could be obtained through a section 7 consultation, exclusion is likely to improve implementation of the HCP, and there are few activities likely to be subject to a section 7 consultation, we concluded that the conservation benefits to the species of exclusion outweighed the conservation benefits to the species of designation. This conclusion also took into account the likelihood that exclusion from

designation would encourage other private landowners to join conservation partnerships for the protection of these and other salmon and steelhead DPSs.

Green Diamond Resources Company

The Green Diamond HCP covers forestry activities on 262,000 acres of land containing approximately 61 total stream miles of Puget Sound steelhead habitat in two watersheds. The HCP extends for a term of 50 years and has been in place since 1999. This HCP is unique in addressing Clean Water Act requirements in addition to ESA conservation measures. It covers forestry activities including forest road management and timber harvest actions and ensures they will be conducted in ways that benefit fish habitat. Important protections include restrictions on timber harvest on unstable slopes and in a buffer zone along fish-bearing streams. Restricting timber harvest on unstable slopes and improving road management will reduce the amount of sediment in these streams, to the benefit of salmon and steelhead habitat. Restricting timber harvest in the riparian zone will moderate stream temperatures and over time create late successional conditions along these streams that result in a high level of ecological function of the riparian and stream habitat to support salmon and steelhead conservation.

Another unique aspect of this HCP is the level of information the landowner had about conditions across its land. Because of this the HCP contains very specific prescriptions that are directly tied to conditions (such as channel types) in each area. The intensive and dynamic nature of the management occurring under this HCP requires us to have regular ongoing interactions with the landowner. These interactions allow us not only to monitor the effectiveness of the HCP but also to learn about the effects of applying various management practices in a forested environment.

To determine the benefits of designating streams within the Green Diamond HCP boundaries, we considered the number of stream miles, their conservation value, and the type and number of federal agency actions expected to occur that would likely undergo a section 7 consultation. For this HCP, there are approximately 24 stream miles in the Skokomish watershed rated as having a high conservation value, and 36 stream miles in the Kennedy-Goldsboro watershed rated as having a medium conservation value. Our analysis predicted there were likely to be very few federal activities affecting these areas that would undergo a section 7 consultation. (The checkerboard pattern of HCP lands with the Olympic National Forest, and the Forest's emphasis on the Skokomish watershed for sediment remediation and watershed restoration are factors that led us to expect less than three section 7 consultations over the next decade.)

The benefit of excluding this area from designation is that it may enhance our relationship with the landowner and may provide an incentive to other landowners to seek conservation agreements with us. Green Diamond Resources Company has indicated that it views designation as a burden and views exclusion from critical habitat as a reward for applying conservation measures on its land. This HCP provides important benefits to listed salmon (as described above) and its ongoing successful implementation will provide benefits to fish conservation that would otherwise be

difficult to obtain on privately owned forest land. Based on information received during the public comment period on our 2005 designations and more recent conversations with the company, we conclude that exclusion of critical habitat within the boundaries of this HCP will enhance our relationship with this HCP partner, and that this enhanced relationship will likely benefit steelhead conservation. Exclusion of these HCP-covered lands may also serve as an incentive to other landowners to seek conservation agreements with us and generally benefit our program to promote voluntary conservation agreements on non-federal lands.

Based on the foregoing analysis, I conclude that the benefits of excluding the stream miles within the boundaries of the Green Diamond Resources HCP outweigh the benefits of designating those lands because:

- The landowner views exclusion as beneficial to our ongoing relationship;
- The successful future implementation of this HCP depends in part upon our relationship with the landowner;
- This particular HCP results in management actions that are beneficial to conservation of the listed species in a manner that is not available through section 7 consultation;
- Our analysis shows few federal activities likely to occur in this area, thus reducing the benefit of designation. Both of the watersheds affected by this HCP are forecast to have less than one activity per year requiring an ESA section 7 consultation;
- Implementation of this HCP is expected to result in high quality riparian conditions in the 2% of habitat areas that overlap with this HCP in the range of Puget Sound steelhead. As noted above, high quality forested riparian areas are a key to salmon and steelhead recovery;
- Implementation of this HCP, and our participation in its implementation in partnership with the landowner, allows us to learn more about the relationship between management activities and habitat conditions, and the relationship between habitat conditions and salmon and steelhead conservation;
- Excluding this area is likely to have offsetting conservation benefits for other listed DPSs by providing incentives to other landowners to seek voluntary conservation agreements with us; and
- Excluding this area is likely to have benefits generally for our policy of promoting voluntary conservation agreements on non-federal lands.

West Fork Timber Company

The West Fork Timber HCP covers forestry activities on 49,000 acres of land containing approximately 15 miles of lower Columbia River coho habitat in two watersheds. The HCP extends for a term of 100 years and has been in place since 1995. This was the first multi-species timber HCP developed and also the first to require assistance and approval by both the U.S. Fish and Wildlife Service and NMFS. The HCP provides for leaving at least 10 percent of the Company's tree farm in non-harvest reserves for the next 100 years. The reserves will take the form of riparian buffers averaging at least 100 feet on each side of all fish-bearing streams, for at least 50 feet along the lowest 1,000 feet of perennial non-fish streams, and where necessary for

protection of potentially unstable slopes. Important protections provided by the HCP include restrictions on timber harvest on unstable slopes, non-harvest reserves for least 10 percent of the Company's tree farm for the next 100 years, and riparian buffers averaging at least 100 feet on each side of all fish-bearing streams. Restricting timber harvest on unstable slopes and improving road management will reduce the amount of sediment delivered to these streams, to the benefit of salmon and steelhead habitat. Restricting timber harvest in the riparian zone is already proving effective at moderating stream temperatures and effects of debris flows and over time will create late successional conditions along these streams that result in a high level of ecological function of the riparian and stream habitat to support salmon and steelhead conservation.

West Fork Timber has conducted watershed analyses for the HCP area and management prescriptions resulting from this process will result in less erosion into fish streams and improve long-term conditions of riparian areas. The HCP also includes stream and wetland surveys, restoration activities, and monitoring to verify and validate the effectiveness of the HCP conservation measures. The landowner has conducted a routine 5-yr review of watershed analyses for this HCP and has discussed results of the effectiveness-monitoring with NMFS and with the U.S. Fish and Wildlife Service. These interactions allow us not only to monitor the effectiveness of the HCP but also to learn about the effects of applying various management practices in a forested environment.

To determine the benefits of designating streams within the West Fork Timber HCP boundaries, we considered the number of stream miles, their conservation value, and the type and number of federal agency actions expected to occur that would likely undergo a section 7 consultation. For this HCP, there are two watersheds with habitat areas under consideration as critical habitat. The Tilton River watershed was rated as having a medium conservation value and the HCP lands within it overlap with approximately 14 stream miles occupied by lower Columbia River coho. The Cowlitz Valley Frontal watershed was rated as having a high conservation value and HCP lands overlap less than 1 stream mile occupied by lower Columbia River coho. Our analysis predicted there were likely to be very few federal activities affecting these areas that would undergo a section 7 consultation. The entire HCP area is undeveloped and managed only for industrial timber production.

The benefit of excluding this area from designation is that it may enhance our relationship with the landowner and may provide an incentive to other landowners to seek conservation agreements with us. West Fork Timber Company has indicated that it views designation as unnecessary and unwarranted on its land. This HCP provides important benefits to listed salmonids (as described above) and its ongoing successful implementation will provide benefits to fish conservation. Based on information received during the public comment period on our 2005 designations and more recent conversations with the company, we conclude that exclusion of critical habitat within the boundaries of this HCP will enhance our relationship with this HCP partner, and that this enhanced relationship will likely benefit salmon conservation. Exclusion of these HCP-covered lands may

also serve as an incentive to other landowners to seek conservation agreements with us and generally benefit our program to promote voluntary conservation agreements on non-federal lands.

Based on the foregoing analysis, I conclude that the benefits of excluding the stream miles within the boundaries of the West Fork Timber Company's HCP outweigh the benefits of designating those lands because:

- The landowner views exclusion as beneficial to our ongoing relationship;
- The successful future implementation of this HCP depends in part upon our relationship with the landowner;
- This particular HCP results in management actions that are beneficial to conservation of the listed species in a manner that is not available through section7 consultation;
- Our analysis shows few federal activities likely to occur in this area, thus reducing the benefit of designation. Both of the watersheds affected by this HCP are forecast to have less than one activity per four years requiring an ESA section 7 consultation;
- Implementation of this HCP is expected to result in high quality riparian conditions in the 0.4% of habitat areas that overlap with this HCP in the range of lower Columbia River coho. As noted above, high quality forested riparian areas are a key to salmon and steelhead recovery;
- Implementation of this HCP, and our participation in its implementation in partnership with the landowner, allows us to learn more about the relationship between management activities and habitat conditions, and the relationship between habitat conditions and salmon and steelhead conservation; and
- Excluding this area is likely to have benefits generally for our policy of promoting voluntary conservation agreements on non-federal lands.

Washington Department of Natural Resources (West of Cascades HCP)

The Washington Department of Natural Resources HCP covers forestry activities on over one million acres of land in 52 watersheds scattered across western Washington State. Collectively the areas contain 323 stream miles occupied by the lower Columbia River coho and Puget Sound steelhead DPSs. The HCP extends for a term of 70 years and has been in place since 1997. It covers forestry activities including forest road management and timber harvest actions and ensures they will be conducted in ways that benefit fish habitat. Important protections include restrictions on timber harvest on unstable slopes and in a buffer zone along fish-bearing streams. Restricting timber harvest on unstable slopes and improving road management will reduce the amount of sediment in these streams, to the benefit of salmon and steelhead habitat. Restricting timber harvest in the riparian zone will moderate stream temperatures and over time create late successional conditions along these streams that result in a high level of ecological function of the riparian and stream habitat to support salmon and steelhead conservation.

In contrast to the Green Diamond Resources HCP, which covers a relatively small area about which the landowner has a great deal of information, the HCP with Washington covers a very large and scattered area and less information is available. For this reason, the HCP has more

general and more restrictive provisions for timber management practices. Because of this, and because of the extensive nature of the management occurring under this HCP, we have regular ongoing interactions with the landowner. These interactions allow us not only to monitor the effectiveness of the HCP but also to learn about the effects of applying various management practices in a forested environment.

To determine the benefits of designating streams within the Washington Department of Natural Resources HCP boundaries, we considered the number of stream miles, their conservation value, and the type and number of federal agency actions expected to occur that would likely undergo a section 7 consultation. Tables 1and 2 show the habitat that would be affected by a designation on HCP lands, as well as the types of federal activities in that area likely to undergo section 7 consultation.

The benefit of excluding this area from designation is that it will enhance our relationship with the landowner and may provide an incentive to other landowners to seek conservation agreements with us. The Washington Department of Natural Resources has indicated that it views designation as a burden and views exclusion from critical habitat as a reward for applying conservation measures on its land. This HCP provides important benefits to listed salmonids (as described above) and its ongoing successful implementation will provide benefits to fish conservation that would otherwise be difficult to obtain on non-federal forest land. Based on information received during the public comment period on our 2005 designations and more recent conversations with the company, we conclude that exclusion of critical habitat within the boundaries of this HCP will enhance our relationship with this HCP partner, and that this enhanced relationship will likely benefit salmon and steelhead conservation. Exclusion of these HCP-covered lands may also serve as an incentive to other landowners to seek conservation agreements with us and generally benefit our program to promote voluntary conservation agreements on non-federal lands.

Based on the foregoing analysis, I conclude that the benefits of excluding the stream miles within the boundaries of the Washington Department of Natural Resources HCP outweigh the benefits of designating those lands because:

- The landowner views exclusion as beneficial to our ongoing relationship;
- The successful future implementation of this HCP depends in part upon our relationship with the landowner;
- This particular HCP results in management actions that are beneficial to conservation of the listed species in a manner that is not available through section 7 consultation;
- Our analysis shows few federal activities likely to occur in this area, thus reducing the benefit of designation. Of the watersheds affected by this HCP, 90% are forecast to have one or fewer activities per year requiring an ESA section 7 consultation;
- Implementation of this HCP is expected to result in high quality riparian conditions in 4% (lower Columbia River coho) to 5% (Puget Sound steelhead) of the DPS's habitat. As noted above, high quality forested riparian areas are a key to salmon and steelhead recovery;

- Implementation of this HCP, and our participation in its implementation in partnership with the landowner, allows us to learn more about the relationship between management activities and habitat conditions, and the relationship between habitat conditions and salmon and steelhead conservation;
- Excluding this area is likely to have offsetting conservation benefits for other listed DPSs by providing incentives to other landowners to seek voluntary conservation agreements with us; and
- Excluding this area is likely to have benefits generally for our policy of promoting voluntary conservation agreements on non-federal lands.

Further analysis is necessary to determine whether excluding these lands will result in extinction of either DPS, after taking into consideration the conservation needs of the DPSs and any other potential exclusions being considered.

Washington Forest Practices

The Washington Forest Practices HCP (FPHCP) is a long-term agreement for protection of Washington's streams and forests that provide habitat for more than 70 aquatic species, including salmon , many of them threatened or endangered. It covers 13 populations of salmon and steelhead, including LCR coho and PS steelhead. Set in motion by the Forests and Fish Act, the programmatic, statewide plan covers 60,000 miles of streams running through 9.3 million acres of forest land. The plan, signed in June 2006, was the result of more than a decade of state, tribal, and federal collaboration to develop it. NMFS and U.S. Fish and Wildlife Service approval recognizes that practicing forestry by Washington State's Forest Practices Rules meets federal ESA requirements for aquatic species covered under the plan. The HCP extends for a term of 50 years and has been in place since 2006.

The HCP is subject to an Implementing Agreement (Agreement) signed by the state of Washington Commissioner of Public Lands, NMFS, and the U.S. Fish and Wildlife Service (USFWS). On May 24, 2012, the state notified NMFS and the USFWS that it was requesting a minor modification to the Agreement that would clarify provisions regarding the minimum funding level needed to implement the HCP and specify a procedure for dealing with funding shortfalls. This request was prompted by legal concerns raised by the Conservation Caucus[1] in December 2011 and a subsequent Settlement Agreement reached regarding funding for the HCP and improving the HCP's adaptive management process. On May 25, 2012, NMFS and the USFWS concurred with the state's request to modify the Agreement. The HCP continues to be implemented in full compliance with the Agreement and NMFS and the USFWS monitor it via annual progress reports. Both agencies also support this HCP by participating in monthly policy meetings with the Washington Department of Natural Resources and other stakeholders.

Ownership patterns within the scope of this HCP range from individuals and families who own small forest parcels, to large holdings owned and/or managed by private corporations and public agencies. Covered lands are forestlands within the state of Washington subject to the Washington

Forest Practices Act. Forestland is defined as "all land which is capable of supporting a merchantable stand of timber and is not being actively used for a use which is incompatible with timber growing." For purposes of road maintenance and abandonment planning and implementation for small forest landowners, "forestland" does not include residential home sites, crop fields, orchards, vineyards, pastures, feedlots, fish pens and land that contains facilities necessary for the production, preparation or sale of crops, fruit, dairy products, fish and livestock. The covered lands mainly include private and state forestlands, although local government forestlands are also covered. Forestlands already covered by existing federally approved habitat conservation plans are generally not considered part of FPHCP covered lands.

The HCP addresses the potential take of several ESA-listed threatened species, including LCR coho and PS steelhead. Covered activities include road and skid trail construction, road maintenance and abandonment, final and intermediate harvesting, pre-commercial thinning, reforestation, salvage of trees and brush control. In addition, adaptive management research and monitoring activities—some of which include experimental treatments—are also covered by the plan. The FPHCP includes measures to monitor, minimize and mitigate any impacts caused by these activities.

The HCP consists of two parts: an administrative framework and a set of protection measures. The administrative framework supports the development, implementation and refinement of the state's Forest Practices program. Its participants include the Forest Practices Board, the Department of Natural Resources, the Forest Practices Appeals Board, forest landowners, cooperating agencies and organizations, and the general public. Each participant has a role in developing, implementing and/or refining the Forest Practices program, and participants often work collaboratively on many aspects of program administration.

Program development includes the creation of new forest practices rules and guidance. Program implementation includes administration of the forest practices permitting process, performing compliance monitoring, taking enforcement actions and providing training and technical support. Program refinement occurs through an adaptive management process. Because there is some uncertainty associated with the effectiveness of many protection measures, adaptive management research and monitoring is a cornerstone of this HCP. Adaptive management is designed to assess the effectiveness of the protection measures in achieving established resource objectives. It also includes programs to monitor the status and trends of key environmental parameters and to evaluate watershed-scale cumulative effects.

Protection measures include state forest practices laws, rules and guidance designed to minimize and mitigate forestry-related impacts and conserve habitat for species covered by the plan. The protection measures determine the level of on-the-ground habitat protection for covered species. They are presented as two separate but interrelated conservation strategies:

- The first is the Riparian Conservation Strategy. It includes protection measures implemented in and adjacent to surface waters and wetlands. Examples include

wetland and water typing systems, channel migration zones, wetland and riparian management zones and equipment limitation zones. These measures are designed to provide adequate levels of large wood recruitment and shade, and to limit excess fine sediment delivery to surface waters and wetlands.

- The second is the Upland Conservation Strategy. It includes measures that protect the habitats of covered species by minimizing and mitigating upslope forest practices impacts. This strategy includes, for example protection measures related to unstable slopes, road construction, maintenance, and abandonment, fish passage at road crossings, and rain-on-snow hydrology. These measures are intended to limit excess coarse and fine sediment delivery to surface waters and wetlands, and to maintain hydrologic regimes. In cases where roads have altered hydrologic regimes, protection measures are also designed to restore hydrologic flowpaths.

To determine the benefits of designating stream reaches within the Washington Forest Practices HCP, we considered the number of stream miles, their conservation value, and the type and number of federal agency actions expected to occur that would likely undergo a section 7 consultation. Tables 1and 2 show the habitat that would be affected by a designation on HCP lands, as well as the types of federal activities in that area likely to undergo section 7 consultation.

The benefit of excluding this area from designation is that it may enhance our relationship with the landowner and may provide an incentive to other landowners to seek conservation agreements with us. The Washington Department of Natural Resources has indicated that it views designation as unnecessary and unwarranted on its land. This HCP provides important benefits to listed salmonids (as described above) and its ongoing successful implementation will provide benefits to fish conservation. It is well established that adequate forested riparian habitat on the forested landscape is a key to salmon recovery (Spence 1996; Bilby and Bisson 1998; Burnett et al. 2007). Implementation of the Washington State forest practices HCP is expected to result in the riparian conditions necessary for salmon and steelhead conservation. This HCP addresses 13 populations of salmon and steelhead, including LCR coho and PS steelhead. It encompasses 60,000 miles of streams running through 9.3 million acres of Washington forest land.

Based on our review of this HCP and recent conversations with administrators of the Washington Forest Practices Act, we conclude that exclusion of critical habitat within the boundaries of this HCP will enhance our relationship with this HCP partner, and that this enhanced relationship will likely benefit salmon conservation. Exclusion of these HCP-covered lands may also serve as an incentive to other landowners to seek conservation agreements with us and generally benefit our program to promote voluntary conservation agreements on non-federal lands.

Based on the foregoing analysis, I conclude that the benefits of excluding the stream miles within the boundaries of the Washington Forest Practices HCP outweigh the benefits of designating those lands because:

- The Washington Department of Natural Resources views exclusion as beneficial to our ongoing relationship;
- The successful future implementation of this HCP depends in part upon our relationship with the landowner;
- Successful implementation of this HCP will contribute significantly to conservation because it will result in functioning riparian habitat throughout major portions of the range of each DPS (26% of all lower Columbia River coho habitat and 34% of all Puget Sound steelhead habitat). High quality forested riparian areas are a key to salmon and steelhead recovery. The riparian conditions expected to result from HCP implementation would not be available through section 7 consultations because of the lack of a federal nexus;
- Our analysis shows few federal activities likely to occur in this area, thus reducing the benefit of designation. Of the affected watersheds, 89% are forecast to have one or fewer activities per year requiring an ESA section 7 consultation;
- Implementation of this HCP, and our participation in its implementation in partnership with the landowner, allows us to learn more about the relationship between management activities and habitat conditions, and the relationship between habitat conditions and salmon and steelhead conservation; and
- Excluding this area is likely to have benefits generally for our policy of promoting voluntary conservation agreements on non-federal lands.

City of Kent HCP

The City of Kent HCP covers the operation and maintenance of Kent's Clark Springs Water Supply System adjacent to Rock Creek, King County, Washington. The Clark Springs Water Supply System consists of a spring-fed infiltration gallery and three well pumps. This facility is located in the Cedar River watershed adjacent to Rock Creek, 1.8 miles upstream of the creek's confluence with the Cedar River. The facility is surrounded by 320 acres of Kent-owned land that is geographically separated from the City of Kent. The Kent HCP extends for a term of 50 years and has been in place since 2011. The HCP addresses the potential take of three ESA-listed threatened species (including PS steelhead) that may be affected by Kent's water withdrawal activities at the Clark Springs facility. Covered activities can be summarized as follows:

- Diversions of ground and surface water under Kent's existing water rights via infiltration gallery, well pumps, and infrastructure;
- Operation and maintenance of Clark Springs Water Supply facilities;
- Maintenance of 320 acres of Kent-owned property as it relates to the protection of its water supply; and
- Operation and maintenance of a water augmentation system for the enhancement of instream flows.

Important protections provided by the HCP include:

- Implementing flow augmentation to improve access and availability of habitat during the months of October, November, and December;

- Off-channel habitat enhancement and large wood enhancement to improve the quality and quantity of rearing and overwintering steelhead habitat;
- Improving passage conditions at the Summit-Landsburg Road stream crossing, primarily for the juvenile life stage of PS steelhead; and
- Establishing a habitat fund that would be used on mitigation/restoration projects to benefit PS steelhead and other species covered in the HCP and improve water quality within the Rock Creek basin.

To determine the benefits of designating stream reaches within the Kent HCP boundaries, we considered the number of stream miles, their conservation value, and the type and number of federal agency actions expected to occur that would likely undergo a section 7 consultation. For this HCP, there is just one watershed with habitat areas under consideration as critical habitat. The Cedar River watershed was rated as having a medium conservation value and the HCP lands within it overlap with approximately 0.5 stream miles occupied by PS steelhead. Our analysis predicted there were likely to be very few federal activities affecting these areas that would undergo a section 7 consultation.

The benefit of excluding this area from designation is that it may enhance our relationship with the landowner and may provide an incentive to other landowners to seek conservation agreements with us. The City of Kent has indicated that it views designation as unnecessary and unwarranted on its land. This HCP provides important benefits to listed salmonids (as described above) and its ongoing successful implementation will provide benefits to fish conservation. Based on our review of this HCP and recent conversations with the City of Kent, we conclude that exclusion of critical habitat within the boundaries of this HCP will enhance our relationship with this HCP partner, and that this enhanced relationship will likely benefit salmon conservation. Exclusion of these HCP-covered lands may also serve as an incentive to other landowners to seek conservation agreements with us and generally benefit our program to promote voluntary conservation agreements on non-federal lands.

Based on the foregoing analysis, I conclude that the benefits of excluding the stream miles within the boundaries of the City of Kent's HCP outweigh the benefits of designating those lands because:

- The landowner views exclusion as beneficial to our ongoing relationship;
- The successful future implementation of this HCP depends in part upon our relationship with the landowner;
- This particular HCP results in management actions that are beneficial to conservation of the listed species in a manner that is not available through section7 consultation;
- Our analysis shows few federal activities likely to occur in this area, thus reducing the benefit of designation;
- Implementation of this HCP, and our participation in its implementation in partnership with the landowner, allows us to learn more about the relationship between management

activities and habitat conditions, and the relationship between habitat conditions and salmon and steelhead conservation; and

- Excluding this area is likely to have benefits generally for our policy of promoting voluntary conservation agreements on non-federal lands.

J.L. Storedahl and Sons

The Storedahl HCP covers the surface mining and reclamation activities as well as processing of sand and aggregate that would occur at the existing Daybreak Mine site and adjacent properties owned by Storedahl along the East Fork Lewis River in Clark County, Washington. The HCP also addresses impacts which may arise from river avulsion (channel changes) through the proposed project site. The Storedahl HCP extends for a term of 25 years and has been in place since 2004. The HCP addresses the potential take of several ESA-listed threatened species, including LCR coho. Covered activities can be summarized as follows:

- Clearing and stockpiling topsoil for later use in reclamation;
- Mining of aggregate;
- Transport of aggregate to the processing facility;
- Aggregate processing (washing, sorting, and moving) and rock products storage;
- Transport of rock products from the site;
- Process and stormwater management;
- Reclamation and habitat enhancement activities;
- Granting of conservation easement(s) and fee simple transfer of the property; and
- Other activities not listed above common to mining, processing and reclamation of the rock products business.

Important protections provided by the HCP include:

- Backfill and slope portions of the excavated areas to provide shallow marshlands and gentle slopes along the banks of the ponds. Additionally, small islands will be created in some of the mining ponds with backfill material and the margins between the ponds and Dean Creek would be developed and reclaimed as forested wetland;
- Remove temporary berms surrounding the site and replanting the areas with native trees that historically would have been found along the lower valley floor of the East Fork Lewis River;
- Develop a site-specific, closed-loop clarification system that will effectively eliminate process water discharge. This should result in a significant reduction in turbidity and less fine sediments being released to or suspended in Dean Creek and the East Fork Lewis River;
- Implement a Storm Water Pollution Prevention Plan and a Storm Water Pollution Prevention Plan for Erosion and Sediment Control;
- Implement a water rights transfer to provide ecological benefits through a reduction in water use and donation of a portion of the water rights to increase flow in Dean Creek. At the completion of aggregate processing, or the term of the HCP, Storedahl will donate the total water right to instream flow purposes, in perpetuity;

- Manage the discharge of water from Pond 5 to provide seasonal flow benefits to Dean Creek; and
- Storedahl will establish a conservation and habitat enhancement endowment and contribute up to $1,000,000 into the endowment, control of which will be conveyed to a non-profit organization at the completion of the 25-year term of the HCP. The endowment will help ensure maintenance of the reclaimed topography and support riparian recovery efforts in the lower East Fork Lewis River basin.

To determine the benefits of designating stream reaches within the Storedahl HCP boundaries, we considered the number of stream miles, their conservation value, and the type and number of federal agency actions expected to occur that would likely undergo a section 7 consultation. For this HCP, there is just one watershed with habitat areas under consideration as critical habitat. The East Fork Lewis River watershed was rated as having a high conservation value and the HCP lands within it overlap with approximately 0.7 stream miles occupied by LCR coho. Our analysis predicted there were likely to be very few federal activities affecting these areas that would undergo a section 7 consultation.

The benefit of excluding this area from designation is that it may enhance our relationship with the landowner and may provide an incentive to other landowners to seek conservation agreements with us. Storedahl has indicated that it views designation as unnecessary and unwarranted on its land. This HCP provides important benefits to listed salmonids (as described above) and its ongoing successful implementation will provide benefits to fish conservation. Based on our review of this HCP and recent conversations with the Storedahl, we conclude that exclusion of critical habitat within the boundaries of this HCP will enhance our relationship with this HCP partner, and that this enhanced relationship will likely benefit salmon conservation. Exclusion of these HCP-covered lands may also serve as an incentive to other landowners to seek conservation agreements with us and generally benefit our program to promote voluntary conservation agreements on non-federal lands.

Based on the foregoing analysis, I conclude that the benefits of excluding the stream miles within the boundaries of the Storedahl HCP outweigh the benefits of designating those lands because:

- The landowner views exclusion as beneficial to our ongoing relationship;
- The successful future implementation of this HCP depends in part upon our relationship with the landowner;
- This particular HCP results in management actions that are beneficial to conservation of the listed species in a manner that is not available through section7 consultation;
- Our analysis shows few federal activities likely to occur in this area, thus reducing the benefit of designation;
- Implementation of this HCP, and our participation in its implementation in partnership with the landowner, allows us to learn more about the relationship between management activities and habitat conditions, and the relationship between habitat conditions and salmon and steelhead conservation; and

- Excluding this area is likely to have benefits generally for our policy of promoting voluntary conservation agreements on non-federal lands.

Attachments:
(1) Maps showing overlap of salmon and steelhead habitat areas with HCP lands excluded from critical habitat designation.
(2) Tables showing conservation value ratings, overlap miles, and consultation activities in watersheds occupied by salmon and steelhead with overlapping HCP lands

Figure 1. HCP lands within the range of the Lower Columbia River Coho DPS.

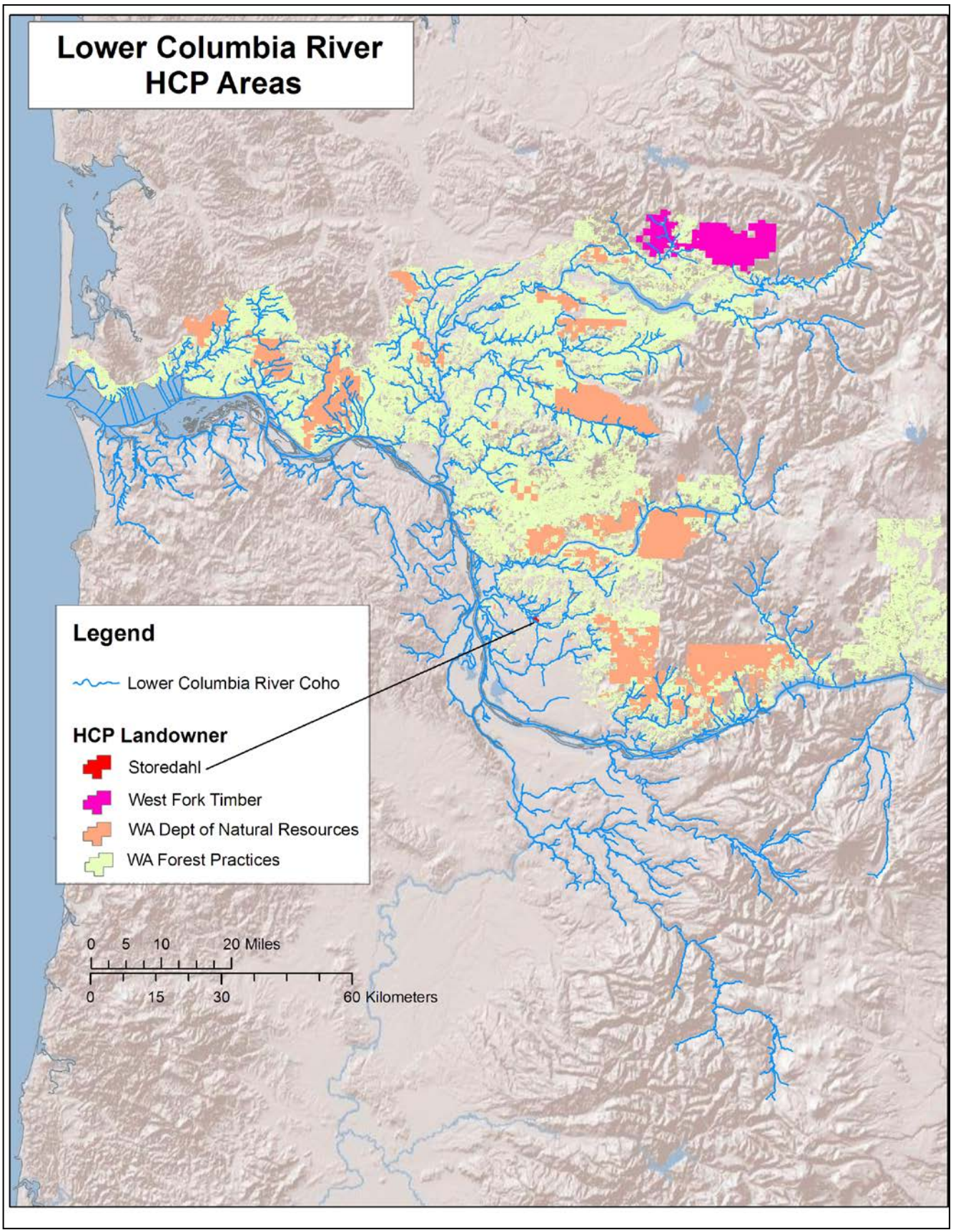


Figure 2. HCP lands within the range of the Puget Sound steelhead DPS.

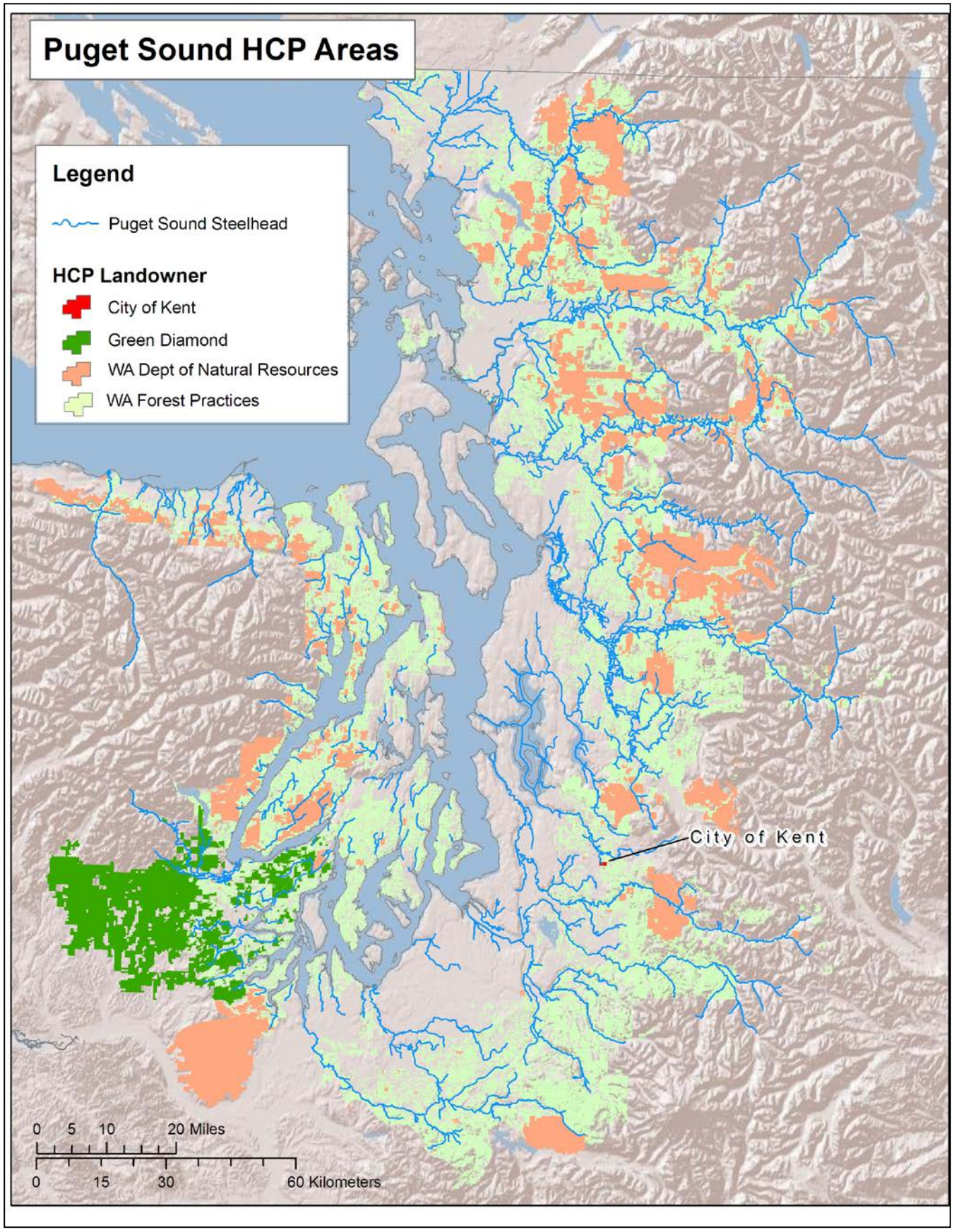


Table 1. Summary of Habitat Conservation Plans (HCP) with lands overlapping with specific areas for the lower Columbia River coho and Puget Sound steelhead DPSs. The conservation value of the affected watershed and the miles of river overlapping with HCP lands are shown.

Affected DPS	HUC5 Watersheds with HCP Lands Overlapping Habitat Areas	Conservation Value of Affected Watershed	Habitat Area in Watershed (River Miles)	HCP Landowner	Habitat Area (River Miles) Overlapping HCP Lands (%)	Overall HCP Lands Overlap as % of Total Habitat Area
Lower Columbia River Coho	1707010509	High	3.7	WA Forest Practices	1.8 (49%)	49%
	1707010511	Medium	76.1	WDNR	0.9 (1%)	29%
				WA Forest Practices	21.3 (28%)	
	1707010512	Medium	22	WA Forest Practices	1.3 (6%)	6%
	1707010513	Medium	20.4	WA Forest Practices	0.6 (3%)	3%
	1708000106	Medium	83.7	WDNR	8.6 (10%)	68%
				WA Forest Practices	48.6 (58%)	
	1708000107	High	97.9	WDNR	4 (4%)	22%
				WA Forest Practices	17.8 (18%)	
	1708000109	Medium	119.7	WDNR	1.2 (1%)	22%
				WA Forest Practices	25.4 (21%)	
	1708000201	High	18.5	WA Forest Practices	0.2 (1%)	1%
	1708000202	High	28.1	WA Forest Practices	0.6 (2%)	2%
	1708000203	Medium	37	WDNR	7.3 (20%)	30%
				WA Forest Practices	3.6 (10%)	
	1708000204	Low	32.6	WDNR	6.5 (20%)	42%
				WA Forest Practices	7.2 (22%)	
	1708000205	High	83.3	WDNR	1.9 (2%)	55%
				WA Forest Practices	43 (52%)	
				Storedahl	0.7 (1%)	
	1708000206	Medium	99.4	WDNR	1.5 (2%)	37%
				WA Forest Practices	34.4 (35%)	
	1708000301	Medium	26.9	WDNR	0.8 (3%)	41%
				WA Forest Practices	10.3 (38%)	
	1708000304	Medium	91.2	WDNR	29 (32%)	81%
				WA Forest Practices	45 (49%)	

Lower Columbia River Coho (cont.)	1708000305	High	119	WDNR	25 (21%)	71%
				WA Forest Practices	59 (50%)	
	1708000402	High	38	WDNR	0.9 (2%)	19%
				WA Forest Practices	6.3 (17%)	
	1708000403	High	67.5	WDNR	0.9 (1%)	30%
				WFT	0.7 (1%)	
				WA Forest Practices	18.7 (28%)	
	1708000405	High	46.1	WA Forest Practices	7.2 (16%)	16%
	1708000501	Medium	65.6	WDNR	4 (6%)	63%
				WFT	14 (21%)	
				WA Forest Practices	23.9 (36%)	
	1708000502	Low	43.8	WDNR	1.2 (3%)	28%
				WA Forest Practices	11 (25%)	
	1708000503	High	147.2	WDNR	2.5 (2%)	66%
				WA Forest Practices	93.8 (64%)	
	1708000504	High	29.6	WDNR	0.5 (2%)	34%
				WA Forest Practices	9.6 (32%)	
	1708000505	High	69.2	WA Forest Practices	48.5 (70%)	70%
	1708000506	High	90.6	WDNR	21.7 (24%)	71%
				WA Forest Practices	42.4 (47%)	
	1708000507	High	214.8	WDNR	5.6 (3%)	59%
				WA Forest Practices	121.2 (56%)	
	1708000508	High	130.3	WDNR	0.6 (0%)	61%
				WA Forest Practices	78.4 (60%)	
	1708000603	High	164.5	WDNR	13.3 (8%)	70%
				WA Forest Practices	102.5 (62%)	
Puget Sound Steelhead	1711000201	Medium	19.5	WDNR	0.1 (1%)	14%
			19.5	WA Forest Practices	2.5 (13%)	
	1711000202	Medium	59.4	WDNR	2.2 (4%)	68%
				WA Forest Practices	37.9 (64%)	
	1711000204	Medium	37.6	WA Forest Practices	25.3 (67%)	67%

Puget Sound Steelhead (cont.)	1711000401	Medium	33.6	WDNR	0.7 (2%)	32%
				WA Forest Practices	10 (30%)	
	1711000402	Medium	17.5	WDNR	7.8 (45%)	72%
				WA Forest Practices	4.7 (27%)	
	1711000403	High	80.4	WDNR	11.2 (14%)	58%
				WA Forest Practices	35 (44%)	
	1711000404	High	81	WDNR	8.8 (11%)	43%
				WA Forest Practices	25.8 (32%)	
	1711000405	High	113.1	WDNR	0.4 (0%)	16%
				WA Forest Practices	18.4 (16%)	
	1711000504	High	6.1	WA Forest Practices	0.1 (2%)	2%
	1711000505	High	32.1	WDNR	0.1 (0%)	23%
				WA Forest Practices	7.4 (23%)	
	1711000506	High	38.8	WDNR	1.2 (3%)	26%
				WA Forest Practices	9 (23%)	
	1711000507	High	52.3	WDNR	0.4 (1%)	30%
				WA Forest Practices	15.1 (29%)	
	1711000508	Medium	42	WA Forest Practices	0.2 (0%)	0%
	1711000601	High	32.5	WA Forest Practices	0.8 (2%)	2%
	1711000603	High	37.7	WDNR	7.7 (20%)	28%
				WA Forest Practices	3.2 (8%)	
	1711000604	High	55.3	WDNR	6.1 (11%)	31%
				WA Forest Practices	11 (20%)	
	1711000701	High	76.2	WDNR	6.7 (9%)	84%
				WA Forest Practices	56.8 (75%)	
	1711000702	High	81.8	WDNR	1.3 (2%)	32%
				WA Forest Practices	24.8 (30%)	
	1711000801	High	137.6	WDNR	31.3 (23%)	60%
				WA Forest Practices	50.6 (37%)	
	1711000802	High	137.9	WDNR	5.4 (4%)	39%
				WA Forest Practices	48.7 (35%)	
	1711000803	High	75.8	WDNR	1.1 (1%)	54%

				WA Forest Practices	40 (53%)	
	1711000901	Medium	33.1	WDNR	3.3 (10%)	21%
				WA Forest Practices	3.6 (11%)	
	1711000902	High	65.2	WDNR	0.8 (1%)	11%
				WA Forest Practices	6.8 (10%)	
	1711000903	High	49.2	WDNR	2.6 (5%)	45%
				WA Forest Practices	19.8 (40%)	
	1711000904	Medium	10.2	WDNR	2.8 (27%)	51%
				WA Forest Practices	2.4 (24%)	
	1711000905	High	72	WDNR	3.2 (4%)	47%
				WA Forest Practices	31.2 (43%)	
	1711001003	High	71.4	WDNR	4.5 (6%)	55%
				WA Forest Practices	35.3 (49%)	
	1711001004	High	127.6	WDNR	5.8 (5%)	52%
				WA Forest Practices	60.3 (47%)	
Puget Sound Steelhead (cont.)	1711001101	High	65.7	WDNR	15.7 (24%)	67%
				WA Forest Practices	28.4 (43%)	
	1711001102	High	154.3	WDNR	0.1 (0%)	17%
				WA Forest Practices	26.3 (17%)	
	1711001201	Medium	43.6	WA Forest Practices	17.2 (39%)	40%
				City of Kent	0.5 (1%)	
	1711001202	Low	41.5	WDNR	0.7 (2%)	27%
				WA Forest Practices	10.5 (25%)	
	1711001204	Low	56.3	WDNR	0.1 (0%)	18%
				WA Forest Practices	10.4 (18%)	
	1711001301	High	26.2	WA Forest Practices	2.2 (8%)	8%
	1711001302	High	41.1	WDNR	1.2 (3%)	41%
				WA Forest Practices	15.5 (38%)	
	1711001303	High	112	WA Forest Practices	33.6 (30%)	30%
	1711001401	High	47.9	WDNR	0.1 (0%)	19%
				WA Forest Practices	9.3 (19%)	
	1711001402	High	75.3	WA Forest Practices	21.3 (28%)	28%

Puget Sound Steelhead (cont.)	1711001403	High	55.7	WDNR	0.4 (1%)	58%
				WA Forest Practices	31.5 (57%)	
	1711001404	High	45.5	WA Forest Practices	21.9 (48%)	48%
	1711001405	High	47.2	WA Forest Practices	2.9 (6%)	6%
	1711001502	High	68.1	WDNR	5.1 (7%)	53%
				WA Forest Practices	31.5 (46%)	
	1711001503	High	93.1	WA Forest Practices	27.1 (29%)	29%
	1711001601	Low	36.2	WA Forest Practices	28 (77%)	77%
	1711001602	Low	27.2	WA Forest Practices	16.6 (61%)	61%
	1711001701	High	88.2	Green Diamond	23.6 (27%)	42%
				WA Forest Practices	13 (15%)	
	1711001802	Medium	5.4	WDNR	1.7 (31%)	79%
				WA Forest Practices	2.6 (48%)	
	1711001803	High	4.4	WA Forest Practices	3.4 (77%)	77%
	1711001804	High	9.3	WDNR	0.3 (3%)	42%
				WA Forest Practices	3.6 (39%)	
	1711001805	High	14.6	WA Forest Practices	7.3 (50%)	50%
	1711001806	Medium	7	WDNR	0.3 (4%)	41%
				WA Forest Practices	2.6 (37%)	
	1711001807	Medium	35.1	WDNR	3.1 (9%)	75%
				WA Forest Practices	23 (66%)	
	1711001808	High	77.5	WDNR	16.8 (22%)	86%
				WA Forest Practices	49.5 (64%)	
	1711001900	Medium	118.6	WDNR	4.5 (4%)	68%
				Green Diamond	37.2 (31%)	
				WA Forest Practices	39.5 (33%)	
	1711001901	Medium	81.4	WDNR	0.6 (1%)	52%
				WA Forest Practices	41.2 (51%)	
	1711001902	Low	20.6	WDNR	0.6 (3%)	51%
				WA Forest Practices	9.9 (48%)	
	1711001904	Low	3.4	WA Forest Practices	2.3 (68%)	68%
	1711001908	Low	21.3	WDNR	0.5 (2%)	29%

Puget Sound Steelhead (cont.)				WA Forest Practices	5.7 (27%)	
	1711002001	High	15.1	WDNR	1.8 (12%)	60%
				WA Forest Practices	7.3 (48%)	
	1711002002	Low	9	WDNR	1.1 (12%)	20%
				WA Forest Practices	0.7 (8%)	
	1711002003	High	58.3	WDNR	1.9 (3%)	29%
				WA Forest Practices	15 (26%)	
	1711002004	High	53.9	WDNR	11.2 (21%)	68%
				WA Forest Practices	25.4 (47%)	
	1711002007	High	97.6 (includes unoccupied areas)	WDNR	2.2 (2%)	12%
				WA Forest Practices	9.9 (10%)	

Table 2. Forecasted annual number of future federal activities (subject to Section 7 consultation) likely to occur within critical habitat of each specific area that overlaps HCP Lands (from Exhibits 3-4 and 3-5 in NMFS 2012b). Values reported as the "Adjusted Total" were calculated using a multiplier based on the % of total overlap reported in the last column of Table 1 above. In other words, the "Total" column shows the annual total number of federal actions likely to undergo a critical habitat consultation if the entire watershed were designated, and the "Adjusted Total" column shows the total number of federal actions undergoing a critical habitat consultation with the HCP lands excluded. HCP acronyms: COK = City of Kent; GD = Green Diamond; STOR = Storedahl; WDNR = WA Department of Natural Resources; WFP = WA Forest Practices; WFT = West Fork Timber.

Affected DPS	HUC5 Watershed(s) with HCP Lands Overlapping Habitat Areas	HCP Landowner	Development	Federal Lands	Instream Work	Mining	Transportation	Utilities	Water Supply	Hydropower	Other	Total	Adjusted Total
Lower Columbia River Coho	1707010509	WFP	0	0	0.2	0	0.6	0	0.3	0	0	1.1	0.54
	1707010511	WDNR/WFP	0	0	0.2	0	0.6	0	0.3	0	0	1.1	0.32
	1707010512	WFP	0	0	0.1	0	0	0	0	0	0	0.1	0.01
	1707010513	WFP	0.2	0	0.2	0	0.1	0	0.1	0	0	0.6	0.02
	1708000106	WDNR/WFP	0	0	0.4	0	0.2	0.1	0.1	0	0.1	0.9	0.61
	1708000107	WDNR/WFP	0.4	0.1	1	0	0.9	0	0	0	0.1	2.6	0.57
	1708000109	WDNR/WFP	0.2	0	1.3	0	1.3	0	0	0	0.3	3.1	0.68
	1708000201	WFP	0	0	0	0	0	0	0	0	0.1	0.1	0.00
	1708000202	WFP	0	0.1	0	0	0	0	0	0	0.1	0.1	0.00
	1708000203	WDNR/WFP	0	0.1	0	0	0	0	0	0	0	0.1	0.03
	1708000204	WDNR/WFP	0.1	0	0	0	0	0	0	0	0	0.1	0.04
	1708000205	WDNR/WFP/STOR	0	0.1	0.1	0.1	0.6	0	0.1	0	0.1	1.1	0.61
	1708000206	WDNR/WFP	0	0	0	0	0	0	0.2	0	0.2	0.4	0.15
	1708000301	WDNR/WFP	0.2	0	0.4	0	0	0.1	0.1	0	0	0.8	0.33

Lower Columbia River Coho (cont.)	1708000304	WDNR/WFP	0	0	0.4	0	0.9	0	0.1	0	0	1.4	1.13
	1708000305	WDNR/WFP	0	0	1	0	0.2	0	0.2	0	0	1.4	0.99
	1708000402	WDNR/WFP	0	0.1	0	0	0	0	0	0	0.1	0.2	0.04
	1708000403	WDNR/WFP/WFT	0	0.4	0	0	0.2	0	0	0	0	0.6	0.18
	1708000405	WFP	0	0.1	0.2	0	0	0	0	0	0.2	0.5	0.08
	1708000501	WDNR/WFP/WFT	0	0	0.1	0	0.1	0	0.1	0.1	0	0.4	0.25
	1708000502	WDNR/WFP	0	0	0.1	0	0.2	0	0	0	0	0.3	0.08
	1708000503	WDNR/WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1708000504	WDNR/WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1708000505	WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1708000506	WDNR/WFP	0	0	0	0	0	0	0	0	0.1	0.1	0.07
	1708000507	WDNR/WFP	0.1	0	0.1	0	0.3	0	0.1	0	0.2	0.8	0.47
	1708000508	WDNR/WFP	0	0	0.2	0	0.8	0	0.1	0	0	1.1	0.67
	1708000603	WDNR/WFP	0.1	0	0.5	0	0.5	0	0.3	0	0.4	1.8	1.26
Puget Sound Steelhead	1711000201	WDNR/WFP	0.2	0	3.1	0	0.2	0.1	0	0	0	3.6	0.50
	1711000202	WDNR/WFP	0.4	0	3.7	0	0.5	0	0.5	0	0.3	5.4	3.67
	1711000204	WFP	0.1	0	1.6	0	0.4	0.2	0.1	0	0	2.4	1.61
	1711000401	WDNR/WFP	0	0	0.1	0	0	0	0	0	0	0.1	0.03
	1711000402	WDNR/WFP	0	0	0	0	0.1	0	0	0	0	0.1	0.07
	1711000403	WDNR/WFP	0	0.1	0.7	0	0.3	0	0	0	0	1.1	0.64
	1711000404	WDNR/WFP	0	0.1	0	0	0.3	0	0	0	0.1	0.5	0.22

Puget Sound Steelhead (cont.)	1711000405	WDNR/WFP	0	0	1.3	0	0.5	0.1	0	0	0	1.9	0.30
	1711000504	WFP	0	0	0	0	0	0	0	0	0.1	0.1	0.00
	1711000505	WDNR/WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1711000506	WDNR/WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1711000507	WDNR/WFP	0	0	0.2	0	0	0	0	0	0	0.2	0.06
	1711000508	WFP	0	0	0.1	0	0	0	0	0	0	0.1	0.00
	1711000601	WFP	0	0	0	0	0.2	0	0	0	0	0.2	0.00
	1711000603	WDNR/WFP	0.2	0	0.1	0	0.2	0	0	0	0	0.5	0.14
	1711000604	WDNR/WFP	0	0	0.1	0	1.2	0	0	0	0.1	1.4	0.43
	1711000701	WDNR/WFP	0	0	0.7	0	0.2	0.1	0.2	0	0.1	1.3	1.09
	1711000702	WDNR/WFP	0.1	0	1.7	0	0.1	0	0.4	0.1	0.1	2.5	0.80
	1711000801	WDNR/WFP	0.2	0	0.9	0	0.3	0	0.1	0	0	1.5	0.90
	1711000802	WDNR/WFP	0.1	0	0.3	0	1	0	0.1	0	0	1.5	0.59
	1711000803	WDNR/WFP	0	0	0.5	0	0.4	0	0.2	0	0.2	1.3	0.70
	1711000901	WDNR/WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1711000902	WDNR/WFP	0	0	0.5	0.1	0.1	0	0.1	0	0	0.8	0.09
	1711000903	WDNR/WFP	0.1	0	0.2	0	0.5	0	0	0	0	0.8	0.36
	1711000904	WDNR/WFP	0	0	0	0	0.1	0	0	0	0	0.1	0.05
	1711000905	WDNR/WFP	0	0	0.4	0	0.7	0	0	0.1	0	1.2	0.56
	1711001003	WDNR/WFP	0	0	0	0	0.4	0	0.2	0	0.1	0.7	0.39
	1711001004	WDNR/WFP	0.1	0	0.3	0	0.7	0.2	0.1	0	0	1.4	0.73

Puget Sound Steelhead (cont.)	1711001101	WDNR/WFP	0.3	0	0.4	0	0.7	0.1	0.1	0	0	1.5	1.01
	1711001102	WDNR/WFP	0.9	0	3.7	0	1.9	0.7	1	0	0.5	8.6	1.46
	1711001201	WFP/COK	0.2	0	0.5	0	0.4	0	0.1	0	0	1.2	0.48
	1711001202	WDNR/WFP	0.2	0	5	0	0.6	0	0	0	0	5.7	1.54
	1711001204	WDNR/WFP	1.3	0	1	0	1.8	0	0.4	0	0.2	4.6	0.83
	1711001301	WFP	0	0	0	0	0.1	0	0	0	0	0.1	0.01
	1711001302	WDNR	0	0	0	0	0.1	0	0	0	0	0.1	0.04
	1711001303	WFP	0.6	0	3.4	0	1.1	0	0.4	0	0.3	5.8	1.74
	1711001401	WDNR/WFP	0	0	0	0	0	0	0.1	0	0	0.1	0.02
	1711001402	WFP	0.1	0	0.1	0	0.3	0	0	0	0	0.5	0.14
	1711001403	WDNR/WFP	0	0	0.4	0.1	0.2	0	0	0	0	0.7	0.41
	1711001404	WFP	0.1	0	0	0	0.2	0	0	0	0.1	0.4	0.19
	1711001405	WFP	0.1	0.1	1.4	0	1.1	0	0.2	0	0	2.9	0.17
	1711001502	WDNR/WFP	0	0	0	0	0.2	0	0	0	0	0.2	0.11
	1711001503	WFP	0	0	0.4	0	0.4	0	0	0	0.4	1.1	0.32
	1711001601	WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1711001602	WFP	0.1	0	0.1	0	0	0	0.1	0	0	0.3	0.18
	1711001701	WFP/GD	0	0	1.2	0	0.3	0	0	0	0	1.5	0.63
	1711001802	WDNR/WFP	0	0	0.7	0	0	0	0	0	0	0.7	0.55
	1711001803	WFP	0	0	0	0	0	0	0	0	0	0	0.00
	1711001804	WDNR/WFP	0	0	0	0	0	0	0	0	0	0	0.00

Puget Sound Steelhead (cont.)	1711001805	WFP	0	0	0.1	0	0.3	0	0	0	0.1	0.5	0.25
	1711001806	WDNR/WFP	0	0	0.1	0	0	0	0.1	0	0.1	0.3	0.12
	1711001807	WDNR/WFP	0	0	0.4	0	0.1	0	0	0	0.1	0.6	0.45
	1711001808	WDNR/WFP	0	0	0.6	0	0	0	0.1	0	0.1	0.8	0.69
	1711001900	WDNR/WFP/GD	0	0	0.9	0	0.1	0	0.1	0	0	1.1	0.75
	1711001901	WDNR/WFP	0.3	0.1	1.7	0	1.2	0	0.1	0	0.2	3.6	1.87
	1711001902	WDNR/WFP	0	0	0.1	0	0.3	0	0.1	0	0.1	0.6	0.31
	1711001904	WFP	0.6	0	1.8	0	0.6	0	0.6	0	0.2	3.8	2.58
	1711001908	WDNR/WFP	0	0	0.1	0	0.2	0	0.1	0	0.2	0.6	0.17
	1711002001	WDNR/WFP	0	0	0.1	0	0	0	0	0	0	0.1	0.06
	1711002002	WDNR/WFP	0	0	0.1	0	0	0	0	0	0	0.1	0.02
	1711002003	WDNR/WFP	0	0	0.4	0	0	0	0.2	0	0	0.6	0.17
	1711002004	WDNR/WFP	0	0	0.3	0	0	0	0.1	0	0.2	0.6	0.41
	1711002007	WDNR/WFP	0	0	0.2	0	0	0	0	0	0	0.2	0.02