Designation of Critical Habitat for West Coast Salmon and Steelhead

FINAL 4(b)(2) Report

August 2005

NATIONAL MARINE FISHERIES SERVICE
Northwest Region

TABLE OF CONTENTS

INTRODUCTION 10
Background 10
Statutory and Regulatory Requirements 10
Findings and purposes of the Act emphasize habitat conservation 10
"Critical Habitat" is specifically defined 11
"Conservation" is specifically defined 11
Certain military lands are precluded from designation 12
Specific deadlines limit the time and information available for making designations 12
Impacts of designation must be considered and areas may be excluded 12
Federal agencies must ensure their actions are not likely to destroy or adversely modify critical habitat 13
Authority to designate critical habitat is delegated to NOAA Fisheries 13
Joint regulations govern designation 13
Statutory Context 15
Identify Specific Areas Meeting the Definition of Critical Habitat 16
In General 16
Military Lands 18
Conduct a Section 4(b)(2) Analysis 18
Background 18
Identifying "Particular" Areas 18
Analyzing Co-Extensive Impacts 19
Analytical Framework for Determining and Weighing Impacts and Benefits 21
Policy Direction Relevant to Balancing Conservation against other Interests Generally 21
Policy Direction Relevant to National Security Impacts 23
Policy Direction Relevant to Impacts to Indian Tribes 23
Policy Direction Relevant to Impacts to the Program for Voluntary Conservation Agreements 23
Determine benefits of designating each particular area 24
Determine the benefits of exclusion and balance them against the benefits of designation 27
Balancing benefits of designation against impacts to national security 29
Balancing benefits of designation against impacts to Indian tribes 30
Balancing benefits of designation against impacts to the program to promote voluntary conservation agreements 34
Economics – Balancing benefits of designating particular watersheds against economic benefits 37
Determine whether the cumulative effect of the recommended exclusions will result in extinction of the species 45
1. Puget Sound Chinook salmon 46
2. Lower Columbia River Chinook salmon 50
3. Upper Willamette River Chinook salmon 52
4. Upper Columbia River spring-run Chinook salmon 53
5. Hood Canal summer-run chum salmon 55

6. Columbia River chum salmon 58
7. Ozette Lake sockeye salmon 60
8. Upper Columbia River steelhead 62
9. Snake River Basin steelhead 64
10. Middle Columbia River steelhead 66
11. Lower Columbia River steelhead 69
12. Upper Willamette steelhead 71

EXECUTIVE SUMMARY

Introduction

This report contains NOAA Fisheries, Northwest Region's recommendations for designating critical habitat under section 4 of the Endangered Species Act (ESA) for 12 salmon and steelhead evolutionarily significant units (ESU) that are listed under the ESA as of the date of the final designation (August 15, 2005). We developed our recommendations consistent with statutory requirements and agency regulations. The ESA and supporting regulations emphasize the central role of habitat in endangered species conservation. It defines critical habitat as specific occupied areas that contain physical or biological features that are essential to conservation and that may require special management considerations or protection, and specific unoccupied areas if the area itself is essential for conservation.

ESA section 4 requires us, using the best scientific information available, to designate critical habitat to the maximum extent prudent and determinable at the time a species is listed, but in any event not more than one year later, to the maximum extent prudent, based on such information as is available at the time. We are precluded from designating critical habitat on military lands covered by an Integrated Natural Resource Management Plan if the Secretary has determined in writing that the plan benefits the species. Before designating any particular area as critical habitat, we must consider the economic impact, impact to national security, and any other relevant impact of designation. The agency has discretion to exclude an area from designation if it finds that the benefits of exclusion outweigh the benefits of designation, unless exclusion will result in extinction of the species. We have discretion in how we balance benefits of designation and exclusion. The statute does not require that any areas be excluded.

Once critical habitat is designated, section 7(a)(2) requires federal agencies to 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.

The statute and supporting regulations require us to identify areas meeting the definition of critical habitat; consider the impacts of designation on economic, national security, and other relevant interests; and weigh the benefits of designation against various potential benefits of exclusion. This must be done in a limited time, using best information available during that time, and with public notice and participation. In designating critical habitat for the 12 salmon and steelhead ESUs, we sought an approach that adhered to these statutory requirements and ultimately exercised the agency's discretionary authority within the framework of congressional, executive and agency policy.

Identify specific areas meeting the definition of critical habitat

Areas that meet the definition of critical habitat include specific areas: 1) within the geographical area occupied by the species at the time of listing, if they 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. To determine "the geographical area occupied by the species at the time of listing" we used the best available data, compiled by the fish and wildlife agencies of Oregon, Washington and Idaho. We determined the physical or biological habitat features essential to salmon and steelhead conservation based upon their unique life history, focusing on "primary constituent elements" as directed by our regulations. Based on the biology and population structure of the species, and the characteristics of the habitat it occupies, we selected watershed boundaries to delineate "specific areas" within the meaning of the statutory definition. We verified the presence of physical or biological features and determined whether they may require special management considerations or protection. Finally, we considered whether we had sufficient information to determine whether any unoccupied areas are essential for conservation. We determined we had sufficient information for three areas for one ESU totaling eight stream miles.

Consistent with recent amendments to the ESA, and in consultation with the Department of Defense, we identified 12 military areas with Integrated Natural Resource Management Plans. We determined, in writing, that these plans as implemented provide benefits to the listed ESUs that are equal to or greater than what we would expect to achieve in a section 7 consultation. These areas are ineligible for designation.

Conduct a section 4(b)(2) analysis

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, we used the same watershed-based delineation that we used for "specific" areas (the occupied stream reaches within a watershed). This delineation allowed us to use a cost-effectiveness framework for recommending economic exclusions. Where we considered impacts on national security, impacts on Indian tribes, and impacts on our program to promote voluntary conservation agreements, however, we instead used a delineation of "particular" areas based on ownership or control of the area. This delineation allowed us to compare and balance the benefits associated with land ownership and management.

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.

Our previous designation of critical habitat for these ESUs was vacated by court order following a challenge to the designations (*National Association of Homebuilders v. Evans,* No. 00-CV-2799 (D.D.C.)) (*NAHB*). In the earlier designations we concluded there would be no impact from the designations, because we were only designating occupied areas. Federal agencies must ensure their actions are not likely to result in the destruction or adverse modification of critical habitat and are not likely to jeopardize the species' continue existence. In occupied habitat, we had reasoned that any action that adversely modifies critical habitat would also jeopardize the species, thus there would be no impact of designation beyond the impact already imposed by the listing and the accompanying jeopardy requirement.

While the case against us was pending, the Court of Appeals for the Tenth Circuit vacated the U.S. Fish and Wildlife Service's critical habitat designation for the southwestern willow flycatcher (*New Mexico Cattle Growers Association v. U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001)) (*NMCA*). The Tenth Circuit found the Service's approach rendered meaningless Congress's requirement that economic impacts be considered in the designation process. The Court concluded that, to give "effect to Congressional directive," the Service must analyze the full impacts of designation, regardless of whether those impacts are co-extensive with other impacts (such as the impact of the jeopardy requirement). Given the decision in the Tenth Circuit, and the similarity between the Fish and Wildlife Service's analysis and ours, we sought a voluntary remand of the designations, which the District Court in our case granted.

On remand, we have examined our extensive consultation record with these as well as other ESUs of salmon and steelhead. Based upon that record, we could not discern a difference between the impacts of applying the jeopardy provision versus the adverse modification provision in occupied habitat. Given our inability to detect a measurable difference between the impacts of applying these two provisions, the only reasonable alternative seemed to be to follow the recommendation of the Tenth Circuit and measure coextensive impacts. Because section 4(b)(2) requires a balancing of competing considerations, and because our record did not support a distinction between impacts resulting from application of the adverse modification provision versus the jeopardy provision, we have concluded that we must uniformly consider coextensive impacts and coextensive benefits. To do otherwise would distort the balancing test contemplated by section 4(b)(2). We recognize that, in reality, excluding an area from designation will not likely avoid all of the impacts we considered, because the section 7 requirement regarding jeopardy still applies. Similarly, much of the section 7 benefit would still apply because the jeopardy requirement still applies. Nevertheless, for exclusions based on economic impacts, the analytical framework we are recommending provides a meaningful comparison of the relative benefits and impacts. For exclusions based on impacts to national security, impacts to tribes, and impacts to our program to promote

voluntary conservation agreements, our balancing also takes into account the difficulty of apportioning impacts between the two different prongs of the section 7 requirement.

Analytical framework for determining and weighing impacts and benefits

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. 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.

To ensure consistency in the exercise of our regulatory authority, we first examined congressional, executive and agency guidance to discern principles that would apply across various types of impacts – economic, national security, or other impacts. We then examined congressional and executive direction relative to each type of impact we considered: impacts to national security, impacts to Indian tribes and impacts to our program for the promotion of voluntary conservation agreements. Based on our review of relevant guidance, we developed the following recommendations for the agency exercise of section 4(b)(2) discretion:

- Regarding exclusions based on **impacts to national security**, we recommend an approach that emphasizes the priority of national security while considering the degree of conservation benefit that may be lost if military lands are excluded.
- Regarding exclusions based on **impacts to Indian tribes**, we recommend an approach that emphasizes respect for tribal sovereignty and self-governance while considering the conservation benefit that may be lost if Indian lands are excluded.
- Regarding exclusions based on **impacts to the program to promote voluntary conservation agreements**, we recommend an approach that recognizes that a net increase in conservation may be achieved through voluntary landowner agreements, depending on the conservation benefit that may be lost if lands covered by voluntary conservation agreements are excluded.
- Regarding exclusions based on **economic impacts**, we recommend an approach that will efficiently reduce economic impacts and address inequities in the distribution of economic impacts, consistent with species conservation.

Determine benefits of designating each particular area

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. Another possible benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area.

To determine the benefit of designating particular areas based on watershed delineations, we rated the relative conservation value of each area as high, medium or low. Areas rated “high” are likely to contribute the most to conservation of an ESU, while those

rated "low" are likely to contribute least (although even low-rated areas may make important contributions to species conservation). We recognized that the "benefit of designation" needed to take into account not only the conservation ratings but also 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. To address this concern, we developed a profile for a watershed that would have "low leverage" in the context of section 7. We treated this "low leverage" profile as diminishing the benefit of designation somewhat but not completely, since the educational benefits of designation would still be more important the higher the conservation value of an area, and since we cannot predict with complete accuracy all of the section 7 consultations that are likely to occur in a particular area. We thus considered the "low leverage" profile to diminish the benefit of designation by one level (that is, a "high" would become a "medium," a "medium" would become a "low" and a "low" would become "very low."

Our use of two different and overlapping scales for "particular" areas required us to adjust our analysis when we considered areas that were delineated by land ownership or control rather than by watershed boundary. In weighing the benefit of designation for these areas, we considered the number of stream miles within the area and the conservation rating of those stream miles. We also considered the types of federal activities likely to occur in the future that would undergo section 7 consultation. Our assessment of the benefit of designation thus incorporated information on what section 7 opportunities would be lost over what amount of habitat if we excluded the area.

<u>Determine the benefits of exclusion and balance them against the benefits of designation</u>
The balancing called for in section 4(b)(2) requires us to balance unlike values – conservation balanced against economic interests, conservation balanced against national security, or conservation balanced against trust obligations to Indian tribes. It also contemplates 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).

Impacts to National Security
Of the 24 areas owned or controlled by the military that contain critical habitat for these ESUs, 12 are shore-based and are covered by Integrated Natural Resource Management Plans that we found would benefit the ESUs. The 12 offshore areas begin at the lower mean low tide. The benefit of designating the shore-based areas was reduced somewhat by the existence of the management plans, and the benefit of designating the offshore areas was reduced somewhat by the fact that most activities that adversely modify the critical habitat of salmon and steelhead occur above the lower low mean tide line. The Defense agencies advised us that the impact of designation would be a reduction in military readiness and that the corresponding benefit of exclusion would therefore be the maintenance of military readiness. Given the national priority on the current global war on terrorism, we determined that the maintenance of military readiness outweighed the conservation benefit that would be lost by excluding these areas that 1) are to a large

extent covered by management plans and 2) constitute two percent or less of the habitat areas for the affected ESUs.

Impacts to Indian Tribes
There are 14 tribes with Indian lands that overlap the critical habitat for seven of the 12 ESUs considered in this designation. The critical habitat on Indian lands ranges from a few miles to hundreds of miles of stream, and includes areas rated as having a high, medium and low conservation value. For some ESUs Indian lands comprise less than one percent of available habitat, and for one ESU Indian lands comprise nine percent of available habitat. The benefit of designating these areas therefore varies from tribe to tribe and ESU to ESU. Nevertheless, we concluded that the conservation benefit that would be lost by excluding these areas was outweighed by 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; 4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs; and 5) the conservation benefit that would be gained by continued tribal participation in regional salmon and steelhead management forums.

Impacts to our program to promote voluntary conservation on private lands
There are 10 landowners with current HCPs whose lands overlap the critical habitat of six of the ESUs considered in this rule. Only three of these indicated they would view exclusion of their land from critical habitat as having benefits to our ongoing relationship. Two of the HCPs contain 20 miles or less of occupied habitat and the other contains 129 miles of occupied habitat, including areas rated as having a high, medium and low conservation value. For some ESUs HCP lands comprise less than one percent of available habitat, and for one ESU HCP lands comprise 10 percent of available habitat. The benefit of designating these areas depends on the number and type of federal agency actions likely to occur, and may be reduced where activities that would undergo a section 7 consultation are already adequately covered by the HCP. The benefit of excluding these areas is the maintenance of effective ongoing relationships with the landowners, which will improve implementation of the HCPs. All three of the HCPs provide considerable benefits to conservation of the affected ESUs. We concluded that the conservation benefit that would be lost by excluding these areas was outweighed by the conservation benefit that would be gained for these same ESUs and for other listed and unlisted species by 1) improving our relationship with these landowners and implementation of the HCPs, 2) creating an incentive for other landowners to seek conservation agreements on their land, and 3) furthering our program to promote voluntary conservation agreements on private land.

Economic Impacts
Finally, we balanced the benefits of designation against the economic benefits of exclusion using a cost-effectiveness approach. For each of the 600 watershed affected by

this designation, we evaluated the conservation benefit of designation as described previously. We also estimated the coextensive economic impact of critical habitat designation (that is, the economic impact resulting from federal agencies adjusting their actions to avoid adverse modification of critical habitat, regardless of whether those modifications would also be required to avoid jeopardizing species' continued existence). This information allowed us to balance the qualitative conservation ratings of high, medium or low against the dollar impacts in a cost-effectiveness framework in which we prioritized for exclusion areas with a relatively low conservation value and high economic impact. Using this framework we identified and recommended exclusions for each ESU that range from recommendations that there be no exclusions to recommendations that as much as 30 percent of the stream miles be excluded. Cost savings range from 0 to 30 percent of total impacts. We did not recommend exclusion of any areas for economic reasons if the exclusion would significantly impede conservation, based on the policy goal of designating critical habitat consistent with West Coast salmon and steelhead conservation.

Determine whether the cumulative effect of the recommended exclusions will result in extinction of the species

Section 4(b)(2) does not allow the agency to exclude areas 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, we have determined for each ESU that the exclusion of the areas we recommend based on economic impacts will not result in extinction of the species. For each ESU we also examined all of the exclusions in combination and judged those exclusions against information developed to date through recovery planning processes as well as offsetting conservation benefits likely to be achieved by excluding Indian lands and lands covered by HCPs. For each ESU, we determined that the exclusions recommended will not result in extinction of the ESU.

INTRODUCTION

Background

This report contains NOAA Fisheries, Northwest Region's recommendations for designating critical habitat under section 4 of the Endangered Species Act (ESA) for 12 salmon and steelhead species that are listed under the ESA as of the date of the final designation (August 15, 2005).[1] It describes the methods used, process followed, and conclusions reached for each step leading to the recommendation.

Over the past several years, NOAA Fisheries has listed 27 distinct population segments, or evolutionarily significant units (ESU), of Pacific salmon and steelhead in Oregon, Washington, Idaho and California. Collectively, these ESUs occupy thousands of miles of streams in watersheds covering more than 154 thousand square miles. In 2000, NOAA Fisheries designated critical habitat for 19 of the listed ESUs (65 FR 7764, February 16, 2000). These designations were challenged in court on a number of grounds. NOAA Fisheries entered into a consent decree resolving these claims and pursuant to court order the designations were vacated. Following remand, NOAA Fisheries received a letter from environmental groups providing 60-day notice of intent to sue for not having designations in place for these 19 ESUs and one additional ESU, Northern California Steelhead. The agency entered into a consent decree with the environmental groups establishing a schedule for completing new designations. On December 14, 2004 the agency published a *Federal Register* Notice proposing designation of critical habitat for the 13 Northwest Region ESUs covered by the consent decree (69 FR 74572). Public comment was open for 90 days and there were four public hearings. Under the consent decree, a final designation must be submitted to the *Federal* Register on or before August 15, 2005. This report contains the Northwest Region's recommendations for the final designations for 12 of the 13 Northwest ESUs that are listed as of the date of the final designation.[2]

Statutory and Regulatory Requirements

The recommendations contained in this report were formulated consistent with statutory requirements and agency regulations. This section reviews the relevant statutory and regulatory provisions that guided the Region's development of recommendations.

Findings and purposes of the Act emphasize habitat conservation

In section 1 of the ESA, "Findings," (16 U.S.C. 1531(a)(1)) Congress declared that:

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[1] The 12 salmon and steelhead species include the following evolutionarily significant units (ESU) of Pacific salmon and steelhead: Puget Sound Chinook salmon; Lower Columbia River Chinook salmon; Upper Willamette River Chinook salmon; Upper Columbia River spring-run Chinook salmon; Hood Canal summer-run chum salmon; Columbia River chum salmon; Ozette Lake sockeye salmon; Upper Columbia River steelhead; Snake River Basin steelhead; Lower Columbia River steelhead; Upper Willamette River steelhead; and Middle Columbia River steelhead. (70 Fed. Reg. 37160, June 28, 2005)

[2] The final listing determination for Oregon Coast coho was extended by 6 months (70 Fed. Reg. 37217, June 28, 2005) so this ESU is not listed as of the date of final critical habitat designation.

> 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 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)(A) of the ESA (16 U.S.C. 1532 (5)) defines critical habitat in some detail.

> (5)(A) The term "critical habitat'' for a threatened or endangered species means –
>
> (i) <u>the specific areas within the geographical area occupied by the species</u>, at the time it is listed in accordance with the provisions of section 1533 of this title, 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) <u>specific areas outside the geographical area occupied by the species</u> at the time it is listed in accordance with the provisions of section 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.
>
> (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 (emphasis added).

"Conservation" is specifically defined

Section 3(3) of the Act defines conservation (16 U.S.C. 1532(3)):

> (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(b)(1) 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 NOAA Fisheries 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) (16 U.S.C. 1533(b)(1)(A)) requires the

Secretary to first consider the impact of designation and permits the Secretary to exclude areas from designation under certain circumstance. Exclusion is not required for any areas.

> 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 (16 U.S.C. 1536(a)(2)). Section 7 also requires federal agencies to ensure such actions do not jeopardize the continued existence of the listed species:

> 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 elaborate on those physical and biological features essential to conservation, and set criteria for the delineation of critical habitat.

50 CFR Sec. 424.12 Criteria for designating 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 dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.
(c) Each critical habitat will be defined by specific limits using reference points and lines as found on standard topographic maps of the area. Each area will be referenced to the State(s), county(ies), or other local governmental 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 information only and do not constitute the boundaries of the area. Ephemeral reference points (e.g., trees, sand bars) shall not be used in defining critical habitat.
(d) When several habitats, each satisfying the requirements for designation as critical habitat, are located in proximity to one another, an inclusive area may be designated as critical habitat.

The regulations define “special management considerations or protection.”

(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.
Sec. 424.02

APPROACH TO DESIGNATING CRITICAL HABITAT

Statutory Context

One observer has noted that at different times in the history of the ESA, Congress has emphasized both the importance of habitat protection to species conservation and the importance of agency restraint in designating areas as "critical" habitat (Patlis 2001). Congress emphasized the importance of habitat in species conservation in several provisions of the ESA. The findings recognize that extinctions have resulted from economic growth and development. Among the purposes of the Act is providing "a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." In determining whether a species is a threatened or endangered species, the Secretary is to consider the current or threatened destruction of its habitat. Federal agencies must ensure their actions are not likely to result in the destruction or adverse modification of designated critical habitat. Section 5 of the Act authorizes the Secretary of Interior to acquire land for species conservation and section 10 requires the development of "habitat conservation plans" for the issuance of incidental take permits.

At the same time, the ESA requires a degree of rigor in identifying areas that qualify as critical habitat. The definition of critical habitat specifies separate criteria for designating occupied areas and unoccupied areas. Occupied areas are critical habitat if they contain physical or biological features essential to the species' conservation, and those features may require special management considerations or protection. Unoccupied areas may be designated only upon a determination that the area itself is essential to conservation. (The House Merchant Marine Committee expressed its view "that the Secretary should be exceedingly circumspect in the designation of critical habitat outside of the presently occupied area of the species" (H.R. Rep. 95-1625).) Finally, the Services are not to designate all of the geographical area that can be occupied by the species, absent a determination that the entire area is essential to conservation.

In addition to the tension between an emphasis on the importance of habitat and a rigorous delineation of critical habitat, the ESA's provisions for designating critical habitat stand out from the listing provisions of the Act in requiring the Services to consider factors in addition to species conservation. Before they may designate an area as critical habitat, the Services must consider the economic impact, impact to national security, and any other relevant impact of the designation. The Services have the discretion to exclude an area from designation if they determine the benefits of exclusion (that is, avoiding the impact that would result from designation), outweigh the benefits of designation (that is, the benefits to species conservation). The Services' discretion is limited in that they may not exclude an area from designation if exclusion will result in extinction of the species.

The Services must observe the details of the statutory definition of critical habitat; must use the best available science; must consider the impacts of the designation on economic, national security, and other relevant interests; and may weigh the benefit to species

conservation resulting from designation against the benefits of exclusion. All of this must be done within specific statutory timeframes, based upon the best information available during those timeframes, and with public notice and participation. In designating critical habitat for West Coast salmon and steelhead, we sought an approach that adhered to these statutory requirements and ultimately exercised the agency's discretionary authority within the framework of agency and administration policy.

The approach we adopted in applying sections 3(5)(A) and 4(b)(2) involved these steps:

1. Identify specific areas meeting the definition of critical habitat

2. Conduct a Section 4(b)(2) analysis:
   - Determine the benefit of designation
   - Determine the impact of designation (and corresponding benefit of exclusion)
   - Determine whether benefits of exclusion outweigh benefits of designation
   - Determine whether the cumulative effect of the recommended exclusions will result in extinction of the species

Identify Specific Areas Meeting the Definition of Critical Habitat

In General

Areas that meet the definition of critical habitat include specific areas: 1) within the geographical area occupied by the species at the time of listing, if they 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. In a separate report, we have documented our conclusions regarding which specific areas meet the definition of critical habitat and are therefore eligible for designation (NMFS 2005a). Pursuant to section 3(5)(A), our first task was to determine "the geographical area occupied by the species at the time of listing." We developed extensive information regarding the stream reaches occupied by salmon and steelhead using data compiled by the fish and wildlife agencies of Oregon, Washington and Idaho, as the best available data. 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. We submitted these maps to independent experts, including the state agencies and Indian tribes for verification, and to the public, for review and comment.

Relying on the biology and life history of each species, we determined the physical or biological habitat features essential to their conservation. We identified these features in an Advance Notice of Proposed Rulemaking (68 Fed. Reg. 55926, Sept. 29, 2003) and in the proposed critical habitat designation (69 Fed. Reg. 74572, Dec. 14, 2004). We solicited independent expert review, including review by state agencies and Indian tribes, and asked for public comment. Consistent with regulatory direction, we focused on primary constituent elements of habitat in identifying these features.

Similarly, 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, 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 occupied stream reaches, for purposes of delineating "specific" areas on which the physical or biological features are found.

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, which was submitted to state fishery agencies and tribes for review and made available for public comment (NMFS 2005a). The teams updated the lists of identified activities based on their final review of the best available scientific data as well as information provided by one commenter indicating additional activities in certain watersheds.

Aside from occupied areas containing essential features that may require special management, the definition of critical habitat includes unoccupied areas if the Services determine that the area itself is essential for conservation. We asked the teams of federal biologists whether there were any unoccupied areas within the historical range of the ESUs that may be essential for conservation. The teams indicated there were three unoccupied stream reaches that were essential for the conservation of Hood Canal summer chum, based on a long-standing local recovery plan and the fact that those streams were the focus of reintroduction efforts. 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 areas they believe may be determined essential through future recovery planning efforts. We anticipate that ongoing recovery planning processes will develop additional information about the species' need for these or other currently unoccupied areas.

Military Lands

Recent amendments to the ESA preclude the Secretary from designating military lands as critical habitat if those lands are covered by an Integrated Natural Resource Management Plan (INRMP) under the Sikes Act and the Secretary certifies in writing that the plan benefits the listed species (Section 4(a)(3), Public Law. No. 108-136). We identified 12 military installations in the Pacific Northwest with INRMPs in place. We reviewed these plans as well as other information available to us regarding the management of these military lands. Based on this information, we determined that each INRMP provides benefits to the listed species, as implemented (NMFS 2005b, which is reproduced as Appendix A to this report).

Conduct a Section 4(b)(2) Analysis

Background

Identifying "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 watershed-based delineation that we used for "specific" areas (the occupied stream reaches within a watershed). This delineation allowed us to use a cost-effectiveness framework for recommending economic exclusions, described further below. Where we considered impacts on national security, impacts on Indian tribes, and impacts on our program to promote voluntary conservation agreements, however, we instead used a delineation of "particular" areas based on ownership or control of the area. This delineation allowed us to compare and balance the benefits associated with land ownership and management.

Our approach to designation had to account for the fact that the two types of particular areas have 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 that 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 (if, for example, a watershed contained military areas that were recommended for exclusion, we subtracted the economic impact associated with those areas from the total economic impact score for that watershed.)

Analyzing Co-Extensive Impacts

As described earlier, our 2000 designation of critical habitat for 19 ESUs of salmon and steelhead was vacated by court order following a challenge to the designations (*National Association of Homebuilders v. Evans,* No. 00-CV-2799 (D.D.C.)) (*NAHB*). In the 2000 designations we concluded there would be no impact from the designations, because we were only designating occupied areas. Federal agencies must ensure their actions are not likely to result in the destruction or adverse modification of critical habitat and are not likely to jeopardize the species' continue existence. In occupied habitat, we had reasoned that any action that adversely modifies critical habitat would also jeopardize the species, thus there would be no impact of designation beyond the impact already imposed by the listing and the accompanying jeopardy requirement.

While the case against us was pending, the Court of Appeals for the Tenth Circuit vacated the U.S. Fish and Wildlife Service's critical habitat designation for the southwestern willow flycatcher (*New Mexico Cattle Growers Association v. U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001)) (*NMCA*). The Service had determined there would be no economic impact from the designation because the impacts associated with jeopardy determinations and adverse modification determinations were coextensive. The Tenth Circuit found the Service's approach rendered meaningless Congress's requirement that economic impacts be considered in the designation process. The Court concluded that, to give "effect to Congressional directive," the Service must analyze the full impacts of designation, regardless of whether those impacts are co-extensive with other impacts (such as the impact of the jeopardy requirement). Given the decision in the Tenth Circuit, and the similarity between the Fish and Wildlife Service's analysis and ours, we sought a voluntary remand of the designations, which the District Court granted.

In granting our motion for a voluntary remand, the district court in *NAHB* noted, "[f]rom this court's perspective the Tenth Circuit's opinion is well-reasoned and comports with the express statutory language of Congress, which specifically requires that an analysis of the economic impact of a critical habitat designation be undertaken." The court observed that "clearly, there is a problem with the current process underlying the critical habitat designation process." The court left it to the agency's "wisdom and institutional knowledge" to remedy the problem and noted "[p]resumably, when the agency conducts new rulemaking it will be in accord with procedures it views to be in accordance with the law."

In developing the proposed critical habitat designation for salmon and steelhead ESUs, we first examined our extensive consultation record with these as well as other ESUs of salmon and steelhead. (For thoroughness, we examined the consultation record for other ESUs to see if it shed light on the issues.) That record includes consultations on habitat-modifying federal actions both where critical habitat has been designated and where it has not. We could not discern a difference between the impacts of applying the jeopardy provision versus the adverse modification provision in occupied habitat. Given our inability to detect a measurable difference between the impacts of applying these two provisions, the only reasonable alternative seemed to be to follow the recommendation of

the Tenth Circuit, approved by the *NAHB* court, which was to measure the entire impact of applying the adverse modification provision of section 7, regardless of whether applying the jeopardy provision would result in the identical impact.

Just prior to publication of our proposed designation, the Court of Appeals for the Ninth Circuit invalidated our regulatory definition of "adverse modification" of critical habitat. Gifford Pinchot Task Force v. FWS , 378 F. 3d 1059 (9th Cir. 2004)(*Gifford Pinchot)*. The Court's decision did not address the regulatory definition of jeopardy. Shortly following that decision, a District Court in Washington, D.C., issued a decision involving the U.S. Fish and Wildlife Service's critical habitat designation for the piping plover. *Cape Hatteras Access Preservation Alliance v. Norton*, 344 F. Supp. 2d 1080 (D.D.C. 2004) (*Cape Hatteras)*. In that decision the Court disagreed with the *NMCA* and *NAHB* Courts, reasoning that the impact of a regulation should be based on a comparison of the world with and without the action and citing guidance from the Office of Management and Budget in support of that proposition. The *Cape Hatteras* Court concluded that the problem with the Services' analysis of economic impacts resulted from its treatment of "adverse modification" and "jeopardy" as being functionally equivalent. The Court ordered the Fish and Wildlife Service "to clarify or modify its position [regarding functional equivalence] on remand," implying that the *Gifford Pinchot* Court's holding might have an effect on the agency's historical treatment of the jeopardy and adverse modification requirements as providing coextensive protections.

In the wake of the *Gifford Pinchot* and *Cape Hatteras* decisions, we are re-examing the regulatory definition of adverse modification but have not yet concluded this process. In the absence of a revised regulation we must look to our current record. Accordingly, we re-examined our record and our current section 7 guidance. We concluded that information currently available to the agency does not allow us to discern an existing difference nor accurately predict the difference between actions required to avoid jeopardy and those required to avoid adverse modification of critical habitat, where habitat-modifying actions are concerned. Nevertheless, we concluded that our analysis of coextensive impacts still allows us to conduct a meaningful section 4(b)(2) analysis so long as we balance those coextensive impacts of designation against coextensive benefits of designation, and, in the case of considering economic exclusions, so long as we continue to use a framework that accommodates a comparison of the relative benefits of designation and exclusion.

The *NMCA* Court's opinion, which we have followed here, addressed only section 4(b)(2)'s requirement that economic impacts be considered ("The statutory language is plain in requiring some kind of consideration of economic impact in the [critical habitat designation] phase"). The Court did not address how "other relevant impacts" were to be considered, nor did it address the benefits of designation. Because section 4(b)(2) requires a balancing of competing considerations, and because our record did not support a distinction between impacts resulting from application of the adverse modification provision versus the jeopardy provision, we have concluded that we must uniformly consider coextensive impacts and coextensive benefits. To do otherwise would distort the balancing test contemplated by section 4(b)(2).

We recognize that, in reality, excluding an area from designation will not likely avoid all of the impacts we considered, because the section 7 requirement regarding jeopardy still applies. Similarly, much of the section 7 benefit would still apply because the jeopardy requirement still applies. Nevertheless, for exclusions based on economic impacts, the analytical framework we are recommending provides a meaningful comparison of the relative benefits and impacts. For exclusions based on impacts to national security, impacts to tribes, and impacts to our program to promote voluntary conservation agreements, our balancing takes into account the difficulty of apportioning impacts between the two different prongs of the section 7 requirement.

Analytical Framework for Determining and Weighing Impacts and Benefits

Section 4(b)(2) provides that the Secretary shall consider certain impacts before designating critical habitat: "the Secretary shall designate critical habitat . . . on the basis of the best scientific data available and after taking into consideration the economic impact, impact to national security, and any other relevant impact of specifying any particular area as critical habitat." In addition, section 4(b)(2) provides that the Secretary may exclude any area from critical habitat upon a determination that "the benefits of such exclusion outweigh the benefits of specifying such area as critical habitat."

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.

To ensure consistency in the exercise of our regulatory authority, we first examined congressional and executive direction to discern principles that would apply across various types of impacts – economic, national security, or other impacts. We then examined congressional and executive direction relative to each type of impact we considered: impacts to national security, impacts to Indian tribes and impacts to our program for the promotion of voluntary conservation agreements.

Policy Direction Relevant to Balancing Conservation against other Interests Generally

Agencies are frequently required to balance benefits of regulations against 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.

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.

Policy Direction Relevant to National Security Impacts

Statement of President George W. Bush
"Securing the Homeland Strengthening the Nation" (2002)

[T]he threat of terrorism is an inescapable reality of life in the 21st century. . . . The country is now at war, and securing the homeland is a national priority."

Policy Direction Relevant to Impacts to Indian Tribes

Secretarial Order # 3206 – American Indian Tribal Rights,
Federal-Tribal Trust Responsibilities,
and the Endangered Species Act, Appendix

Sec. 2. General Policy. (A) Goals. The goals of this Appendix are to provide a basis for administration of the Act in a manner that (1) recognizes common federal-tribal goals of conserving sensitive species (including candidate, proposed, and listed species) and the ecosystems upon which they depend . . .

. . .

4) In keeping with the trust responsibility, 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.

Policy Direction Relevant to Impacts to the Program for Voluntary Conservation Agreements

H.R. Rep. No. 835, 97th Congress, 2nd Session 31 (Reprinted in 1982 U.S. Code Congressional and Administrative New s2807, 2831)

Purpose of adding section 10 of the ESA, which provides for HCPs, is to encourage "creative partnerships" between the private sector and local, state and

federal agencies for the protection of endangered species and habitat conservation.

From these expressions of congressional, executive and agency policy, we developed the following recommendations for the agency exercise of section 4(b)(2) discretion:

- Regarding exclusions based **impacts to national security**, we recommend an approach that emphasizes the priority of national security while considering the degree of conservation benefit that may be lost if military lands are excluded.
- Regarding exclusions based on **impacts to Indian tribes**, we recommend an approach that emphasizes respect for tribal sovereignty and self-governance while considering the degree of conservation benefit that may be lost if Indian lands are excluded.
- Regarding exclusions based on **impacts to the program to promote voluntary conservation agreements**, we recommend an approach that recognizes that a net increase in conservation may be achieved through voluntary landowner agreements, depending on the degree of conservation benefit that may be lost if lands covered by voluntary conservation agreements are excluded.
- Regarding exclusions based on **economic impacts**, we recommend an approach that will efficiently reduce economic impacts and address inequities in the distribution of economic impacts, without impeding species conservation.

Determine benefits of designating each particular area

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. 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.

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 2005a). 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. (Throughout this report we refer to HUC5s as watersheds. When referring to watersheds as salmon and steelhead critical habitat, we mean the occupied stream reaches within a watershed.) 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 ESU, the teams rated each watershed as having a "high," "medium" or "low" conservation value. The teams did not discount the conservation value of any area based on a presumption that the section 7 prohibition against jeopardy would protect the habitat regardless of whether it was designated as critical habitat (to ensure that coextensive benefits would be counted equitably against coextensive costs).

Areas rated "high" are likely to contribute the most to conservation of an ESU, 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 ESU 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 ESU, and on whether nearby habitat areas are designated.

We recognized that the "benefit of designation" needed to take into account not only the teams' conservation ratings but also 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. To address this concern, we developed a profile for a watershed that would have "low leverage" in the context of section 7. The "low leverage" profile included watersheds with: less than 25 percent of the land area in federal ownership, no hydropower dams, and no consultations likely to occur on instream work. We chose these attributes because federal lands, dams and instream work all have a high likelihood of consultation and a potential to significantly affect the physical and biological features of salmon and steelhead habitat. We treated this "low leverage" profile as diminishing the benefit of designation somewhat but not completely, since the educational benefits of designation would still be more important the higher the conservation value of an area, and since we cannot predict with complete accuracy all of the section 7 consultations that are likely to occur in a particular area. We thus considered the "low leverage" profile to diminish the benefit of designation by one level (that is, a "high" would become a "medium," a "medium" would become a "low" and a "low" would become "very low" (NMFS 2005a). Using the teams of biologists, we confirmed whether watersheds with a low-leverage profile were in fact low leverage based on their experience applying section 7 in the area.

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 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 the map in Figure 1. In this example, a

connectivity corridor is imbedded in the watershed designated as "07." The connectivity corridor serves the watersheds designated as "05" and "06." In addition, there is a tributary in "07." 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. We 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).

Our use of two different and overlapping scales for "particular" areas required us to adjust our analysis when we considered areas that were delineated by land ownership or

control rather than by watershed boundary. In weighing the benefit of designation for these areas, we considered the number of stream miles within the area and the conservation rating of those stream miles. We also considered the types of federal activities likely to occur in the future that would undergo section 7 consultation. Our assessment of the benefit of designation thus incorporated information on what section 7 opportunities would be lost over what amount of habitat if we excluded the area.

Determine the benefits of exclusion and balance them against the benefits of designation

The balancing called for in section 4(b)(2) requires us to balance unlike values – conservation balanced against economic interests, conservation balanced against national security, or conservation balanced against trust obligations to Indian tribes. It also contemplates 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). The following sections describe the approach we took to balancing each of these different interests. Table 1 gives an overview of the discussion that follows:

Table 1. Overview of Section 4(b)(2) balancing framework for different types of interests

Particular Area	Benefit of Exclusion	Benefit of Designation	Policy Considerations	Conservation Trade-off
Watershed	Economic	- Based on conservation value of the watershed (as adjusted for "low leverage" areas)	Cost-Effective and Equitable Regulations	Net loss of conservation, but not if the loss will significantly impede conservation of the ESU overall
Military Zone	Maintain military readiness	- Conservation value of the affected watershed(s) is relevant - Types of activities likely to occur there are relevant - Protection provided by INRMPs reduces somewhat the benefit of designation	Priority of National Security	May result in a net loss of conservation, but that is overcome by priority of national security and mitigated by INRMPs
Indian Lands	Respect tribal sovereignty, ensure tribal participation in other conservation forums	- Conservation value of the affected watershed(s) is relevant - Types of activities likely to occur there are relevant	Respect for tribal sovereignty and self-governance Conservation trade-off (lose section 7 on Indian lands in exchange for tribal participation in conservation across all actions and areas)	May result in a net loss of conservation, but that is overcome by priority of tribal sovereignty and mitigated by tribal participation in conservation activities
HCP Lands	Enhance relationship with landowner, provide incentive for other landowners to see HCPs	- Conservation value of the affected watershed(s) is relevant - Types of activities likely to occur there are relevant - Protection provided by HCP reduces benefit of designation for those activities covered by the HCP	Promote voluntary conservation program (lose section 7 on HCP lands in exchange for enhanced implementation and potential for additional HCPs with other landowners)	Net gain in conservation on private lands

Balancing benefits of designation against impacts to national security

Our balancing of the benefits of designation against the benefits of exclusion for military areas is described more fully in a separate document (NMFS 2005b), reproduced at Appendix A. There are 24 military sites that overlap with areas we found to meet the definition of critical habitat for three of the listed ESUs. These areas include shore-based areas (all of which are covered by INRMPs) and offshore areas in Puget Sound where the Navy has security restrictions.

To determine the impact on the military of designating these sites, we contacted the Department of Defense. Both the Army and Navy provided information clarifying site locations and describing the types of military activities that occur at these sites. They also listed the potential changes that critical habitat designation would cause to their activities in these areas, and the consequent national security impacts. Both military agencies concluded that critical habitat designation at any of these sites would likely impact national security by diminishing military readiness. The possible impacts include: preventing, restricting, or delaying training or testing exercises or access to such sites; restricting or delaying activities associated with vehicle/vessel/facility maintenance and ordinance loading; delaying response times for ship deployments and overall operations; and creating uncertainties regarding ESA consultation (e.g., reinitiation requirements) or imposing compliance conditions that would divert military resources. Also, both military agencies cited their ongoing and positive consultation history with NOAA Fisheries and underscored cases where they are implementing best management practices to reduce impacts on listed salmonids.

Following the proposed designation we had further discussion with the Navy and agreed to refine the delineation of offshore areas in Puget Sound where the Navy has established security zones. We had proposed to exclude those areas up to the extreme high water line, but the Navy agreed that the military zone could instead be delineated in terms of the mean lower low tide without raising national security concerns. Since most of the activities affecting salmon and steelhead in the nearshore zone are land-based, this refinement allowed us to retain most of the conservation benefit of designating nearshore areas while still retaining the benefit to national security of excluding offshore military areas.

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 in military areas, we considered the number of miles of stream and nearshore 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. For areas covered by INRMPs, we also considered the fact that the INRMPs provide some level of conservation benefit to the listed salmon and steelhead. The 12 land-based facilities and 12 Navy security zones in Puget Sound include both stream and nearshore critical habitat for three ESUs: one percent of the total stream miles and two percent of the total nearshore miles for Puget Sound Chinook; four percent of the total nearshore miles for Hood Canal summer-run chum; and one percent

of the total stream miles for upper Columbia River steelhead. All of the stream and nearshore miles are rated as having a high conservation value.

The types of activities occurring in these areas that would be likely to undergo a section 7 consultation include activities associated with: instream activities, National Pollutant Discharge Elimination System permits, and non-hydropower dams (NMFS 2005b).

The benefit of excluding these areas is that the Navy 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 Navy. Moreover, in a reinitiated consultation, or in any future consultation, the Navy may be required to modify some of its activities to ensure they would not be likely to adversely modify the critical habitat. The Navy maintains that the additional commitment of resources, and any modification of its activities, would likely reduce its readiness capability. Given that the Navy is currently actively engaged in training, maintaining, and deploying forces in the current war on terrorism, this reduction in readiness could reduce the ability of the military to ensure national security.

For each ESU, we considered the miles of habitat within the boundaries of military areas; the conservation value of that habitat; and type of federal activities in those areas that would likely undergo section 7 consultation. We also considered the degree to which the military agencies believe designation will affect military readiness (NMFS 2005b). Based on our consideration, and given the following factors, we concluded that the national security benefits of exclusion outweigh the conservation benefits of designation for each of the three affected ESUs:

- the high priority placed on national security by the Administration;
- the potential for critical habitat designation to have some impact on the Navy's military readiness;
- the fact that these areas are covered by INRMPs that we find provide a benefit for the ESU, as implemented (thereby reducing the benefit of designation); and
- the fact that collectively these areas represent relatively small percentages of the total habitat available for each ESU.

Our consideration of whether these exclusions would result in extinction of any of the affected ESUs is described in more detail in the discussion of ESU-by-ESU exclusions later in this report.

Balancing benefits of designation against impacts to Indian tribes

Our balancing of the benefits of designation against the benefits of exclusion for Indian lands is described more fully in a separate document (NMFS 2005c), reproduced at Appendix B. There are 14 tribes with Indian lands that overlap the critical habitat for seven of the 12 ESUs considered in this designation. The critical habitat on Indian lands ranges from a few miles to hundreds of miles of stream, and includes areas rated as having a high, medium and low conservation rating.

Throughout the course of preparing the proposed designation we consulted with Northwest Indian tribes to determine the impact of critical habitat designation on tribes. Northwest tribes universally advised us that critical habitat designation would have a negative impact on tribal sovereignty and tribal self-governance. 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 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 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 and a series of letters and analyses they have provided 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).

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 and nearshore 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. Table 2 lists the ESUs and amount of habitat involved.

Table 2. Benefits of critical habitat designation on Indian lands – extent of habitat that would receive section 7 protections.

ESU and Occupied Miles (Occupied stream miles / occupied nearshore miles)	Stream miles overlapping with Indian lands			Indian lands overlap as % of total stream miles occupied	Nearshore miles (all high) overlapping with Indian lands	Indian lands overlap as % of total nearshore miles occupied
	Conservation Value					
	High	Med	Low			
1. Puget Sound Chinook Salmon (2,216 / 2,376)	46		<1	2%	146	6%
2. Hood Canal Summer-run Chum Salmon (88 / 402)		4		5%	9	2%
3. Ozette Lake Sockeye Salmon (40 / na)	<1			2%		
4. Upper Columbia River Steelhead (1,332 / na)	43	2	9	4%		
5. Snake River Steelhead (8,225 / na)	27	12		<1%		
6. Middle Columbia River Steelhead (6,529 / na)	535	63	1	9%		
7. Upper Willamette River Steelhead (1,830 / 0)	9		2	<1%		

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 (NMFS 2005c).

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 each ESU, 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 (NMFS 2005c).

Based on our consideration, and given the following factors, we concluded that the benefits to conservation of the ESUs from full tribal participation in regional salmon management mitigated 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 each of the seven affected ESUs. 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 relatively small percentages of the total habitat available for each ESU.

The Indian lands specifically recommended 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 any of the affected ESUs is described in more detail in the discussion of ESU-by-ESU exclusions later in this report.

Balancing benefits of designation against impacts to the program to promote voluntary conservation agreements

Our balancing of benefits of designation and exclusion for lands covered by Habitat Conservation Plans (HCP) is described more fully in a separate document (NMFS 2005e), reproduced at Appendix C. There are 10 landowners with current HCPs whose lands overlap the critical habitat of the ESUs considered in this rule. They range from lands with just a few stream miles to lands with scores of stream miles of critical habitat.

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 (NMFS 2005e).

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. During the comment period on the proposed rule, we received comments from a number of parties interested in HCPs and other forms of conservation agreements. Many of the commenters expressed the view that designation of lands covered by HCPs may harm our ongoing relationship with landowners. The comments of three landowners with current HCPs provided evidence that exclusion is likely to enhance our relationship with these landowners, which in turn will promote our ability to work effectively together to implement the HCP. Another landowner with a current HCP welcomed designation because it reinforces the importance of the area. Other landowners with current HCPs were silent regarding the impact of designation on their land. Based on this mix of comments, 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.

The three landowners are Washington Department of Natural Resources, Green Diamond Resources Company, and West Fork Timber Company. The affected ESUs and number of stream miles are shown in Table 3.

Table 3. Benefits of critical habitat designation on HCP-covered lands – extent of habitat that would receive section 7 protections.

ESU and Occupied Miles (Occupied stream miles)	Stream miles overlapping with HCP lands			HCP lands overlap as % of total stream miles occupied
	Conservation Value			
	High	Med	Low	
1. Puget Sound Chinook Salmon (2,216)	70	23	5	4%
2. Lower Columbia River Chinook Salmon (1,655)	87	75		10%
3. Hood Canal Summer-run Chum Salmon (88)	4	1		6%
4. Columbia River Chum Salmon (715)	4			<1%
5. Ozette Lake Sockeye Salmon (40)	2			5%
6. Lower Columbia River Steelhead (2,673)	84	41		5%

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 reduced by 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 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 ESU, we considered: the miles of habitat within the boundaries of the three 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 ESUs from enhancing our ongoing relationship with these landowners, from encouraging other landowners to develop HCPs, and from promoting the HCP program generally, outweigh the benefits of designation for each of the six affected ESUs. 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;
- the conclusion we reached in approving these HCPs that they were adequate to provide for conservation of the ESUs, 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 ESUs.

Our consideration of whether these exclusions would result in extinction of any of the affected ESUs is described in more detail in the discussion of ESU-by-ESU exclusions later in this report.

Economics – Balancing benefits of designating particular watersheds against economic benefits

We balanced the benefits of designation against the economic benefits of exclusion using a cost-effectiveness approach described below. The report at Appendix D show how we applied of this approach to develop recommendations for exercise of the Secretary's discretion to exclude particular areas.

In a separate report we document our estimate of the economic impacts of designating each of the particular areas found to meet the definition of critical habitat (NMFS 2005d). The first step was to identify the baseline conditions – the legal and regulatory constraints on economic activity that are independent of critical habitat designation, for example Clean Water Act requirements. Coextensive impacts of the section 7 jeopardy requirement were not considered part of the baseline. Next, from the consultation record, we identified federal activities that might affect habitat and that might result in a section 7 consultation. (We did not consider federal actions, such as the approval of a fishery, that might affect the species directly but not affect its habitat.) We identified 13 types of activities and the modifications each type of activity was likely to undergo as a result of section 7 consultation. We developed an expected direct cost for each type of action and projected the likely occurrence of each type of project in each watershed, using existing spatial databases (for example., the U.S. Army Corps of Engineers 404(d) permit database). Finally, we aggregated the costs from the various types of actions and estimated an annual impact, taking into account the probability of consultation occurring and the likely rate of occurrence of that project type.

The economic analysis makes certain simplifying assumptions that may cause costs in some categories to be overstated. For example, except for costs associated with federal lands and a judicial restriction on pesticide application, costs are assigned to all activities within the geographic boundary of the watershed, even though not all federal activities in the watershed will lead to a section 7 consultation. The analysis also makes assumptions about the likely impact of modifications to hydropower projects, when in fact many of the projects included in the analysis may not require modifications. This could not be determined without further analysis, which time did not permit. As discussed previously, the analysis also overestimates costs because it includes costs that would be incurred as a result of applying the jeopardy requirement of section 7. Nevertheless, the analysis is based on the best information available within the time constraints, and it provides a

reasonable basis for comparing cost impacts among different areas to inform the designation process.

The analysis also estimated how much of the economic impacts would have a local effect versus a regional or national effect. This was accomplished by identifying which of the activity types were likely to have local economic effects (such as instream activities) and which were likely to have broader effects (such as hydropower or federal lands activities). By estimating the number of people within each watershed, the analysis also allowed for a consideration of per capita costs in each. Because there were habitat areas where we wanted the option to consider connectivity corridors separately from the tributaries (such as a high-value connectivity corridor through an otherwise low-value habitat area), we also identified which types of activities were most likely to have tributary impacts and which were most likely to have connectivity corridor impacts. This allowed us to estimate the separate impact of designating just the tributaries (and therefore the separate benefit of excluding just the tributaries).

The economic analysis presents the costs as a point estimate for each habitat area, generally representing the mid-point of the range of costs. The economic analysis used two different discount rates to predict future costs (7 and 3 percent). In conducting our 4(b)(2) cost-effectiveness analysis we focused on the estimates that used the 7 percent rate. We also tested our methods against the estimates using the 3 percent rate and found the results would not change.

Ideally the balancing of any benefits, particularly economic benefits, 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 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, across more than 600 watersheds) 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.

In determining whether the economic benefit of excluding a habitat area might outweigh the benefit to the species of designation, we considered the following factors: 1) the policy goal of exercising our discretion to further conservation of listed species; 2) the policy goal of adopting regulations that minimize total economic impacts and disparate economic impacts; 3) the recognition that because we are considering coextensive impacts, the dollar benefits of exclusion are likely overstated, 4) the difficulty of balancing dissimilar values (dollars versus benefits to species conservation); and 5) the limited time frame in which to make decisions. Consideration of these factors led us to a cost-effectiveness approach in which we gave priority to excluding habitat areas with a relatively lower benefit of designation and a relatively higher economic impact.

The circumstances of most of the listed ESUs seem well suited to a cost-effectiveness approach. Pacific salmon and steelhead are wide-ranging species and occupy numerous habitat areas with thousands of stream miles. Most of these areas contain "physical or biological features" we have identified as "essential to conservation" of the ESUs. Not all these areas, however, are of equal importance to conserving an ESU, as evidenced by the biological teams' rating of different areas as high, medium or low. It is therefore possible to construct different scenarios for achieving conservation, which might have more or less certainty of achieving conservation, and more or less economic impact.

To give effect to our policy goals we decided on a two-step approach. In the first step we identified all areas eligible for exclusion. Eligibility was determined based on a dollar impact. In the second step we asked the biological teams to consider whether excluding any of the eligible areas, either alone or in combination with other eligible areas, would significantly impede conservation. For the first step, we sought criteria that would result in a list of eligible areas with a meaningful cost savings. At the same time, because of the time limitations, we did not want to develop a list that would then require extensive modification as a result of applying biological judgment in the second step.

We also sought criteria that would account for the fact that recovery planning processes are not yet complete. The timeframes associated with the designation process necessarily lead to decisions regarding designation of critical habitat in advance of recovery planning. This is a factor for the agency to consider in deciding whether to exclude any areas.

To better determine the most appropriate criteria, we first constructed alternative scenarios for the initial exclusion step. In one scenario we did not exclude any areas. This scenario would provide the maximum benefit of designation to the species, and a useful point of comparison for the economic benefit possible from other scenarios. In another scenario we simply considered as eligible for exclusion all habitat areas with a low- or medium-value rating. In a third scenario we developed dollar thresholds for low- and medium-value areas likely to result in meaningful economic reductions, but that would not in most cases automatically make all the low- and medium-value habitat areas eligible for exclusion.

In addition to overall economic impact, we were concerned about equitable allocation of impacts. Per capita local impacts tended to be higher in less developed areas where there are fewer people. To carry out the policy objective of an equitable distribution of the regulatory burden, we also included criteria in the third scenario making areas eligible for exclusion based on per capita impact. In none of the scenarios did we consider habitat areas for exclusion if they had a high-value. Based on the rating process used by the biological teams, we judged that exclusion of any of the high-value areas would significantly impede conservation.

Selection of criteria for the third scenario was complicated by the fact that the circumstances of each ESU are unique. For example, none of the habitat areas occupied by Columbia River chum or Hood Canal summer chum received a low-value rating. Some ESUs had a higher proportion of low- and medium-value areas than others. Different criteria could therefore be expected to produce different results for different ESUs. In developing criteria for the third scenario, we chose dollar thresholds that we anticipated would lead most directly to a cost-effective scenario, recognizing that the question of whether the economic benefit of excluding any particular area outweighs the benefit of designating that area can only be answered in the context of the overall designation – the conservation impact of excluding any particular area may depend on

which other areas are being excluded, and therefore the benefit of designation may depend on what else is being designated.

As criteria for identifying habitat areas eligible for exclusion, we selected a threshold for total impacts of $85,000 and per capita impacts greater than $100 for low-value areas. For medium-value areas, we selected a threshold of $300,000 and per capita impacts greater than $500. The average size of watersheds in Idaho is only 40 percent of the average size of watersheds in Oregon and Washington, so for the Idaho watersheds we used thresholds set at 40 percent of these values. These numbers do not represent an objective judgment that, for example, a low-value area is worth no more than $85,000. The statute directs us to balance dissimilar interests with a limited amount of time (and therefore information). It emphasizes the discretionary nature of the decision to exclude. Moreover, while our approach follows the Tenth Circuit's direction to consider coextensive economic impacts, we nevertheless must acknowledge that all of the cost estimates are likely higher than the true cost of a critical habitat designation. Finally, the cost estimates developed by our economic analysis do not result in a distribution with obvious break points that would lead to a logical division between "high," "medium," and "low" costs that might correspond to high, medium and low conservation value. 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. The policy context in which we carry out this task led us to select dollar thresholds that would likely lead to a cost-effective designation in a limited amount of time with a relatively simple process. We did not receive any comments from peer reviewers or the public regarding our choice of dollar thresholds or the two-step process we used to first identify areas eligible for exclusion and then determine whether to recommend exclusion.

As described previously, during the course of developing a final rule we also considered whether there were some cases in which the biological teams' ratings of conservation value might need to be adjusted to take into account the likelihood of a consultation and the degree of habitat modification likely as a result of potential federal actions. To address this concern, we identified a profile for a watershed that would have "low leverage" based on the fact that a section 7 consultation in that watershed would be unlikely to occur or, if it did occur, it would yield few conservation benefits. We used this profile to identify potential low leverage watersheds and then verified with the biological teams that the areas identified did indeed have low section 7 leverage. We then adjusted downward by one level the conservation rating for these low leverage watersheds. The result was that some watersheds previously given a low conservation value now had a "very low" conservation value. To balance the benefit of designating these watersheds against the economic benefit of excluding them, we adopted an additional dollar threshold of $1000, as a figure that represented a very low economic impact. (We did not develop a profile for a high leverage watershed and adjust conservation ratings upward because of the second step in our economic exclusion process, in which the biological teams advised whether exclusion would significantly impede conservation. Our selection of dollar thresholds was intended to create an

efficient process and not because of a judgment about absolute equivalence between a certain dollar amount and a certain amount of conservation. We concluded that this second step protected against excluding a watershed if exclusion would significantly impede conservation, making upward adjustments unnecessary.)

Table 4 illustrates the results of each scenario for each ESU (L=Low and M=Medium). Where a habitat area contains tributaries with one rating and a connectivity corridor with another rating, the impacts are separated and attributed accordingly. For example, if a habitat area has a low-value tributary rating and a high-value connectivity corridor, the economic impact of designating the high-value connectivity corridor is represented in the "high" category and the impact of designating the tributaries is represented in the "low" category.

Table 4: Comparison of alternative scenarios for excluding certain areas from critical habitat designation under ESA section 4(b)(2). The cumulative potential economic impact of designating habitat areas within watersheds is presented for the low conservation value, medium conservation value, high conservation value, and all habitat areas for each Evolutionarily Significant Unit (ESU). The reduction in potential economic impact is then presented for each of the three scenarios. Economic impacts reflect those for watersheds and connectivity corridors within the spawning and rearing range of a given ESU.

		Potential Reduction in Maximum Economic Impact *(reduction in annual economic impact of section 7 consultations)*		
Conservation value of watersheds/ nearshore areas	**Maximum economic impact**	**Scenario 1**	**Scenario 2**	**Scenario 3**
L = low value *M = medium value* *H = high value*	*Annual economic impact of section 7 consultations*	*No areas eligible for exclusion*	*All low-value(L) and medium-value (M) areas eligible for exclusion. For L and M areas with high-value (H) migration/ connectivity corridors, only tributaries are eligible for exclusion.*	*All low-value (L) areas with an economic impact > $85,000/yea or >$100/year/personr, and all medium-value (M) areas with an economic impact of $300,000/year or > $500/year/person, are eligible for exclusion*
1. Puget Sound chinook ESU				
L	$8,472,412	$0	-$8,472,412	-$8,472,412
M	$12,026,703	$0	-$12,026,703	-$11,085,430
H	$70,357,267	$0	$0	$0

Total	**$90,856,383**	**$0**	**-$20,499,116**	**-$19,557,842**
2. Lower Columbia River chinook ESU				
L	$4,851,132	$0	-$4,851,132	-$4,851,132
M	$6,509,118	$0	-$6,509,118	-$4,547,868
H	$26,194,803	$0	$0	$0
Total	**$37,555,053**	**$0**	**-$11,360,250**	**-$9,399,000**
3. Upper Willamette River chinook ESU				
L	$4,639,638	$0	-$4,639,638	-$4,639,638
M	$4,746,829	$0	-$4,746,829	-$1,931,760
H	$22,805,563	$0	$0	$0
Total	**$32,192,031**	**$0**	**-$9,386,468**	**-$6,571,398**
4. Upper Columbia River spring-run chinook ESU				
L	$0	$0	$0	$0
M	$4,183,890	$0	-$4,183,890	-$3,387,900
H	$13,447,675	$0	$0	$0
Total	**$17,631,565**	**$0**	**-$4,183,890**	**-$3,387,900**
5. Hood Canal summer-run chum ESU				
L	$0	$0	$0	$0
M	$1,633,492	$0	-$1,633,492	$0
H	$5,121,923	$0	$0	$0
Total	**$6,755,416**	**$0**	**-$1,633,492**	**$0**
6. Columbia River chum ESU				
L	$0	$0	$0	$0
M	$578,785	$0	-$578,785	-$528,994
H	$16,435,738	$0	$0	$0
Total	**$17,014,523**	**$0**	**-$578,785**	**-$528,994**
7. Ozette Lake sockeye ESU				
L	$0	$0	$0	$0
M	$0	$0	$0	$0
H	$2,723	$0	$0	$0
Total	**$2,723**	**$0**	**$0**	**$0**
8. Upper Columbia River Steelhead				
L	$226,967	$0	-$226,967	-$210,642
M	$8,850,190	$0	-$8,850,190	-$5,821,506
H	$17,631,560	$0	$0	$0
Total	**$26,708,717**	**$0**	**-$9,077,157**	**-$6,032,148**
9. Snake River Basin Steelhead				

L	$561,888	$0	-$561,888	-$480,090
M	$2,702,081	$0	-$2,702,081	-$275,532
H	$26,666,414	$0	$0	$0
Total	**$29,930,383**	**$0**	**-$3,263,969**	**-$755,622**
10. Middle Columbia River Steelhead				
L	$2,023,184	$0	-$2,023,184	-$1,966,579
M	$7,542,012	$0	-$7,542,012	-$2,311,459
H	$33,141,019	$0	$0	$0
Total	**$42,706,215**	**$0**	**-$9,565,196**	**-$4,278,038**
11. Lower Columbia River Steelhead				
L	$1,069,821	$0	-$1,069,821	-$1,069,821
M	$8,002,572	$0	-$8,002,572	-$6,215,291
H	$27,499,337	$0	$0	$0
Total	**$36,571,730**	**$0**	**-$9,072,393**	**-$7,285,112**
12. Upper Willamette Steelhead				
L	$4,056,065	$0	-$4,056,065	-$4,056,065
M	$2,222,039	$0	-$2,222,039	-$432,615
H	$8,861,875	$0	$0	$0
Total	**$15,139,978**	**$0**	**-$6,278,103**	**-$4,488,679**

Scenario 1 illustrates the total estimated economic impact of applying section 7 requirements to habitat-modifying actions in all of the habitat areas within an ESU. Scenario 2 illustrates the estimated potential reduction in economic impact if all of the low- and medium-value habitat areas are excluded, and Scenario 3 illustrates the estimated potential reduction in economic impact if low- and medium-value habitat areas above a particular dollar threshold are excluded. The cost reductions shown are only potential reductions. Until the second step of the analysis is completed, it is not possible to determine the final estimated reduction that scenario would yield. In considering the scenarios, we kept in mind that both the costs and reductions to cost are likely overstated because the jeopardy requirement of section 7 still applies. Nevertheless, examining alternatives gives a useful picture of the relative outcomes of different scenarios.

Scenario 1 would maximize the goal of achieving conservation. However, it would not serve the other goal of efficiently reducing the cost of conservation. Scenario 2 furthers the goal of reducing economic impacts, but without any sensitivity to the fact that for some habitat areas the cost is relatively small so the incremental benefit of excluding that area is small (making it problematic to conclude that the benefit of exclusion outweighs the benefit of designation). Scenario 2 is also not sensitive to the fact that for most ESUs, eliminating all low- and medium-value habitat areas is likely to significantly impede conservation. While the second step of the test (application of biological judgment) would address this concern, it would not do so in an efficient way – that is, it would not

efficiently lead to the low-cost areas being favored for designation and the high cost areas favored for exclusion. For Scenario 2, it is unlikely that all of the potential reductions would be retained through the second step. The end result also may not be economically efficient unless there are additional iterative steps that allow for consideration of economic impacts within the context of the goal of achieving conservation.

In contrast, Scenario 3 is sensitive to the fact that excluding some low and medium areas will save less than excluding other low and medium areas. It is also sensitive to the fact that excluding all low and medium areas in all ESUs would not result in an efficient second step of the process. Based on these considerations, we adopted the two-step test, first applying the economic criteria described for Scenario 3 to develop a set of recommended exclusions. In the second step of the process, we asked the biological teams whether excluding any of the habitat areas identified in the first step would significantly impede conservation. The teams considered this question in the context of the exclusions being contemplated for military areas, Indian lands, and HCP lands; all of the areas eligible for exclusion based on economic impacts; and the information they had developed in providing the initial conservation ratings. Where the teams concluded that exclusion would significantly impede conservation, we have not recommended exclusion. The tables in Appendix D show the result of applying this two-step process.

We note that other approaches could be taken to economic exclusions and other policy considerations could be applied to reach a different result. For example, in the first step, different dollar thresholds could be selected, including a dollar threshold above which high-value areas would be considered for exclusion. Or in the second step, policy-makers might favor other goals over conservation.

The tables in Appendix D show the results of applying these thresholds. They indicate all of those watersheds determined eligible for exclusion in the first step of the process. The footnotes identify where the second step of the process resulted in a watershed that was eligible for exclusion not being excluded.

Determine whether the cumulative effect of the recommended exclusions will result in extinction of the species

Section 4(b)(2) does not allow the agency to exclude areas 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, we have determined for each ESU that the exclusion of the areas we recommend based on economic impacts will not significantly impede conservation. In the next section we discuss how we considered the economic exclusions in combination with the other types of exclusions to make this required finding for each ESU.

AREAS RECOMMENDED FOR EXCLUSION – BY ESU

Many of the habitat areas under consideration meet the definition of critical habitat for more than one ESU, that is, they have overlapping critical habitat. Also, in the Snake River basin, there are listed ESUs with critical habitat currently designated that are not part of this rulemaking (Snake River Fall Chinook, Snake River Spring/Summer Chinook, and Redfish Lake Sockeye). The habitat areas for some ESUs also overlap proposed critical habitat for the listed Bull Trout.

In areas of overlap, we could have decided that the critical habitat for one ESU would be designated first. Protection for the first ESU would then be part of the baseline for the second or third ESU, so there would be little impact from the subsequent designations. We decided against this approach for several reasons. The decision of which ESU went first could have a major effect on the incremental impact of the subsequent ESUs, creating an opportunity to manipulate the outcome. In addition, if one ESU were to recover and be de-listed, its critical habitat designation would also be gone, leaving the remaining designations in place. In contrast, an approach that considered the independent effect of each designation would accurately represent the situation if one of the designations were no longer to apply. Moreover, because of the cost-effectiveness framework we have adopted, so long as we do not count these designations as part of the baseline when we consider the benefit of designation for each ESU, we will still have an accurate picture of the relative benefits of designation versus the relative benefits of exclusion.

Similarly, we did not consider the existing critical habitat designations for Snake River salmon to diminish either the impacts or the benefits of designating critical habitat for Snake River steelhead. As with the overlapping designations, the cost-effectiveness framework we have adopted continues to give us a meaningful comparison of relative impacts and benefits. In addition, the agency has stated its intention to revisit the existing critical habitat designations for Snake River ESUs, if appropriate, following completion of related rulemaking (67 Fed. Reg. 6215, Feb. 11, 2002). Given the uncertainty that these designations will remain in place in their current configuration, we decided not to include them in the baseline.

One result of this decision is that there are some areas that are designated for one ESU but excluded for another, because the differing habitat needs may lead to an area being rated high-value for one ESU but medium- or low-value for another. In recommending exclusions, we did not make a separate effort to match exclusions. Consistent with our approach throughout, we considered the impacts of designation and the benefits of designation for each ESU based on its individual circumstances.

1. Puget Sound Chinook salmon

The Puget Sound Chinook ESU was listed as a threatened species in 1999 (64 FR 14308; March 24, 1999). The ESU includes all naturally spawned populations of Chinook

salmon from rivers and streams flowing into Puget Sound including the Strait of Juan de Fuca from the Elwha River, eastward, including rivers and streams flowing into Hood Canal, South Sound, North Sound and the Strait of Georgia in Washington). The agency recently conducted a review to update the ESU's status, taking into account new information and considering the net contribution of hatchery efforts in the ESU. We recently published the results of this review and concluded that Puget Sound Chinook salmon (including 26 hatchery programs) should remain listed as threatened (70 FR 37160; June 28, 2005).

There are 2,216 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 61 watersheds within the range of this ESU. Twelve habitat areas received a low rating, nine received a medium rating, and 40 received a high rating of conservation value to the ESU (NMFS 2005a). Nineteen nearshore marine areas (encompassing 2,376 miles) also received a rating of high conservation value. Figure D.1(a) shows a map of Puget Sound watersheds with habitat areas occupied by the ESU and eligible for designation.

Recovery Planning Status

A Technical Recovery Team (TRT) was formed in 2000 to assist recovery planning efforts in Puget Sound. The Puget Sound TRT has released technical reports describing independent populations of Chinook salmon in Puget Sound (Ruckelshaus et al. 2001, 2002, 2004). The Puget Sound TRT identified 22 independent Chinook populations: the North Fork Nooksack River, South Fork Nooksack River, Lower Skagit River, Upper Skagit River, Lower Sauk River, Suiattle River, Upper Sauk River, Cascade River, North Fork Stillaguamish River, South Fork Stillaguamish River, Skykomish River, Snoqualmie River, North Lake Washington, Cedar River, Green/Duwamish River, Puyallup River, White River, Nisqually River, Skokomish River, Dosewallips River, Dungeness River, and Elwha River. Some naturally spawning aggregations of Chinook were not recognized as part of these populations (e.g., the Deschutes River in South Puget Sound). The TRT concluded that Chinook salmon using smaller streams in south and central Puget Sound probably did not occur there in large numbers historically and were not independent populations. It is not clear whether these smaller streams are occupied due to recent hatchery releases or whether historically they supported small satellite "sink" populations that were dependent on larger independent "source" populations (Ruckelshaus et al. 2002; B. Graeber, NMFS, personal communication).

The Puget Sound TRT identified five geographic regions of diversity and correlated risk in Puget Sound that are intended to assist in evaluating ESU-wide recovery planning (Ruckelshaus et al. 2002). The regions are based on similarities in hydrographic, biogeographic, geologic, and catastrophic risk characteristics and where groups of populations have evolved in common (Ruckelshaus et al. 2002). The Puget Sound Chinook salmon ESU occupies all of these regions. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such regions (Ruckelshaus et al. 2002, McElhany et al. 2003). From 2003 through early 2005, local planning groups in Puget Sound developed watershed assessments and specific recovery action plans for each watershed. The Biological Team considered the

TRT products in rating each watershed, but did not have the benefit of the watershed plans. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are 12 facilities located within the range of the Puget Sound Chinook salmon ESU, controlled by the military, with Integrated Natural Resource Management Plans: (1) Naval Submarine Base, Bangor; (2) Naval Undersea Warfare Center, Keyport; (3)Naval Ordinance Center, Port Hadlock (Indian Island); (4) Naval Radio Station, Jim Creek; (5) Naval Fuel Depot, Manchester; (6) Naval Air Station Whidbey Island; (7) Naval Air Station, Everett; (8) Bremerton Naval Hospital; (9) Puget Sound Naval Shipyard; (10) Fort Lewis (Army); and (11) Pier 23 (Army). As described previously, and in separate documents, we have determined that the military's management of lands covered by these INRMPs provides benefits to the species. The occupied stream reaches within these military lands therefore do not qualify for designation pursuant to section 4(b)(1) of the ESA.

There are also 12 Navy security or restricted zones within the range of this ESU, and some of these overlap with INRMP areas. As described previously, we recommend designating a narrow nearshore zone in non-INRMP areas but excluding deeper nearshore waters (beyond mean lower low water) due to potential impacts on national security and our determination that the benefits of excluding these areas outweigh the benefits of designating them.

There are 13 Indian reservations within the range of Puget Sound Chinook: (1) Jamestown S'Klallam tribe, (2) Lower Elwha-Klallam tribe; (3) Lummi tribe; (4) Muckleshoot tribe; (5) Nisqually tribe; (6) Nooksack tribe; (7) Port Gamble S'Klallam tribe; (8) Puyallup tribe; (9) Skokomish tribe; (10) Squaxin Island tribe; (11) Swinomish tribe; (12) Tulalip tribe; and (13) Upper Skagit tribe. The amount of Indian land overlapping areas eligible for designation is identified in Table 5. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these Indian lands outweigh the benefits of designating them.

There are two landowners with approved HCPs within the range of the Puget Sound Chinook ESU - Washington Department of Natural Resources and Green Diamond Resources Company. The amount of HCP land overlapping areas eligible for designation is identified in Table 5. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these HCP lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table D.1 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that 12 low conservation value habitat areas and four medium-value habitat areas be excluded in their entirety, and the tributary-only portions of one medium-value area with a high-value connectivity corridor be excluded from designation, because the economic benefits of exclusion outweigh the benefits of designation. We also recommend that tributaries only be excluded in one medium value The map in Figure D.1(b) shows those habitat areas being recommended for exclusion. They include 370 total stream miles, representing 17 percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 22 percent of the impact that would occur if all habitat areas (stream and nearshore) were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Puget Sound Chinook ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 5), the habitat areas being recommended for designation include approximately 1,683 stream miles and approximately 2,182 marine nearshore miles. These habitat areas are well distributed through, and representative of, the five geographic regions of diversity and correlated risk identified by the Puget Sound TRT. The recommended critical habitat designation for the Puget Sound Chinook ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the demographically independent Chinook populations in this ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Puget Sound Chinook salmon ESU.

Table 5. Summary of Exclusions for Puget Sound Chinook Salmon

Conservation Value	Number of Watersheds or Nearshore Areas	Total Stream Miles of Eligible Habitat	Stream or Nearshore Miles Excluded From Designation			
			National Security Impacts[a]	Indian Lands	Habitat Conservation Plans	Economic
High	40	1,747	19	46	70	
High (nearshore)	19	2,376	48	146		
Medium	9	255			23	161
Low	12	214		<1	5	209

[a]These miles are ineligible for consideration because they overlap with DOD lands that are covered by an INRMP.

2. Lower Columbia River Chinook salmon

The Lower Columbia River Chinook ESU was listed as a threatened species in 1999. The ESU includes all naturally spawned populations of Chinook salmon from the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point between Washington and Oregon east of the Hood River and the White Salmon River, and includes the Willamette River to Willamette Falls, Oregon, exclusive of spring-run Chinook salmon in the Clackamas River (64 FR 14308; March 24, 1999). The agency recently conducted a review to update the ESU's status, taking into account new information and considering the net contribution of artificial propagation efforts in the ESU. We recently published the results of this review and concluded that Lower Columbia River Chinook salmon (including 17 hatchery programs) should remain listed as threatened (70 FR 37160; June 28, 2005).

There are 1,655 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 48 watersheds within the range of the ESU. Four watersheds received a low rating, 13 received a medium rating, and 31 received a high rating of conservation value to the ESU (NMFS 2005a). The lower Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.2(a) shows a map of Lower River Columbia watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

The Willamette/Lower Columbia TRT identified 31 historical demographically independent Chinook salmon populations in this ESU (Myers et al. 2003). It is estimated that eight to ten historical populations in the ESU have been extirpated or nearly so. The TRT has grouped populations within the ESU into three life-history types (spring-, fall-, and late fall-run) and three ecological spawning zones (Coast Range, Cascade, and Columbia Gorge) (McElhany et al. 2002). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of life-history types and ecological zones (Ruckelshaus et al. 2002, McElhany et al. 2003). A draft recovery plan for the Washington management unit of this ESU was completed by the Lower Columbia Fish Recovery Board (LCFRB) and released by NMFS for public comment in April 2005. NMFS expects to use this plan as an interim regional recovery plan until a plan for the whole ESU is completed. A preliminary draft plan for Oregon areas of the ESU is expected by the end of 2005. The Biological Team considered the LCFRB plan and the TRT products in rating each habitat area, but did not have the benefit of regional recovery plans throughout the range of this ESU. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of Lower Columbia River Chinook. There are also no Indian reservations within this range. There are two landowners with an approved HCP within the range of the Lower Columbia River Chinook ESU - Washington Department of Natural Resources and West Fork Timber Company. The amount of HCP land overlapping areas eligible for

designation is identified in Table 6. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these HCP lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table D.2 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that four low-value habitat areas and five medium-value habitat areas be excluded in their entirety, and the tributary-only portions of one medium-value area with a high-value connectivity corridor be excluded from designation, because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.2(b) shows those habitat areas being recommended for exclusion. They include 182 total stream miles, representing 11 percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 25 percent of the impact that would occur if all habitat areas were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Lower Columbia River Chinook ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 6), the habitat areas being recommended for designation include approximately 1,311 stream miles occupied by this ESU. These habitat areas are well distributed through, and representative of, the ecological zones and life-history types identified by the Willamette/Lower Columbia TRT. The recommended critical habitat designation for the Lower Columbia River Chinook ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the 21-23 extant Chinook populations in this ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Lower Columbia River Chinook ESU.

Table 6. Summary of Exclusions for Lower Columbia River Chinook Salmon

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High	31	1,171			87	
Medium	13	418			75	116
Low	4	66				66

3. Upper Willamette River Chinook salmon

The Upper Willamette River Chinook ESU was listed as a threatened species in 1999 (64 FR 14308; March 24, 1999). The ESU includes all naturally spawned populations of spring-run Chinook salmon in the Clackamas River and in the Willamette River, and its tributaries, above Willamette Falls, Oregon. The agency recently conducted a review to update the ESU's status, taking into account new information and considering the net contribution of artificial propagation efforts in the ESU. We recently published the results of this review and concluded that Upper Willamette River Chinook salmon (including seven hatchery programs) should remain listed as threatened (70 FR 37160; June 28, 2005).

There are 1,796 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 60 watersheds within the range of the ESU. Nineteen watersheds received a low rating, 18 received a medium rating, and 23 received a high rating of conservation value to the ESU (NMFS 2005a). The lower Willamette/ Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.3(a) shows a map of Upper Willamette watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

The Willamette/Lower Columbia TRT has identified seven historically demographically independent populations with a single run-type (spring-run fish) and a single ecological spawning zone (the Willamette River) (McElhany et al. 2002). The populations include: Clackamas, Molalla, North Santiam, South Santiam, Calapooia, McKenzie, and Middle Fork Willamette rivers. The TRT also noted that reports of "Chinook salmon in westside tributaries have continued to the present; however it is unlikely the abundance of spawners in any of these tributaries constitutes a [demographically independent population]." Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of the ESU (Ruckelshaus et al. 2002, McElhany et al. 2003). A preliminary draft recovery plan for this ESU is expected by the end of 2005. This plan will be based on the Willamette subbasin plan, which was completed in May 2004. The Biological Team considered the TRT products in rating each watershed, but did not have the benefit of a recovery plan. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of lower Columbia Chinook. There are also no Indian reservations within this range, or lands covered by current habitat conservation plans directed at salmon conservation.

Consideration of Economic Impacts and Recommendations for Exclusions

Table D.3 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that 11 low conservation value habitat areas and four medium-value areas be excluded in their entirety, and the tributary-only portions of eight low-value areas with high- or medium-value connectivity corridors be excluded from designation, because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.3(b) shows those areas being recommended for exclusion. They include 217 total stream miles, representing 18 percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 20 percent of the impact that would occur if all habitat areas were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Upper Willamette River Chinook ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 7), the habitat areas being recommended for designation include approximately 1,796 stream miles occupied by this ESU. These habitat areas are well distributed across the geographical area occupied by the seven demographically independent populations within this ESU. The recommended critical habitat designation for the Upper Willamette River Chinook ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Upper Willamette River Chinook ESU.

Table 7. Summary of Exclusions for Upper Willamette River Chinook Salmon

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High	23	1,022				
Medium	18	527				98
Low	19	247				226

4. Upper Columbia River spring-run Chinook salmon

The Upper Columbia River spring-run Chinook ESU was listed as an endangered species in 1999 (64 FR 14308; March 24, 1999). The ESU includes all naturally spawned

populations of Chinook salmon in all river reaches accessible to Chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington, excluding the Okanogan River. The agency recently conducted a review to update the ESU's status, taking into account new information and considering the net contribution of artificial propagation efforts in the ESU. We recently published the results of this review and concluded that Upper Columbia River Chinook salmon (including six hatchery programs) should remain listed as endangered (70 FR 37160; June 28, 2005).

There are 1,002 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 31 watersheds within the range of this ESU. Five watersheds received a medium rating and 26 received a high rating of conservation value to the ESU (NMFS 2005a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.4(a) shows a map of the Upper Columbia River watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

Three extant demographically independent populations of naturally spawning spring-run Chinook salmon are identified for this ESU: the Wenatchee, Entiat, and Methow River Basin population. The Interior Columbia Basin Technical Recovery Team (ICBTRT 2003 and 2005) placed these populations into a single major population grouping based on life-history type and ecological spawning zone. Recovery planning will likely emphasize the need for a viable geographical distribution of the three populations comprising this ESU (Ruckelshaus et al. 2002, McElhany et al. 2003). Subbasin assessments and plans have been completed for each subbasin through the Northwest Power and Conservation Council. Recovery planners are now using those subbasin plans and TRT products to develop ESA recovery plans. Draft recovery plans are expected by the end of 2005. The Biological Team considered the available subbasin plans and TRT products in rating each watershed. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of Upper Columbia River spring-run Chinook. There is one Indian reservation (Colville tribe) within the range of this ESU but there are no stream miles that meet the definition of critical habitat within the boundary of the reservation (two areas are occupied but do not contain physical or biological features essential to conservation of the ESU). There are no current habitat conservation plans in this area directed at salmon conservation.

Consideration of Economic Impacts and Recommendations for Exclusions

Table D.4 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that the tributaries of four medium conservation value habitat areas containing high-value connectivity corridors be excluded because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.4(b) shows those areas being recommended for exclusion. They include 28 total stream miles, representing 3 percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 19 percent of the impact that would occur if all habitat areas were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Upper Columbia River spring-run Chinook ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 8), the habitat areas being recommended for designation include approximately 974 stream miles occupied by this ESU. These habitat areas are well distributed within and among the three demographically independent populations identified for this ESU. The recommended critical habitat designation for the Upper Columbia River spring-run Chinook ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of these populations. Therefore, we conclude that the recommended exclusions will not result in extinction of the Upper Columbia River spring-run Chinook ESU.

Table 8. Summary of Exclusions for Upper Columbia River Spring-run Chinook Salmon

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High	26	966				
Medium	5	36				28
Low	0					

5. Hood Canal summer-run chum salmon

The Hood Canal summer-run chum salmon ESU was listed as a threatened species in 1999 (64 FR 14508; March 25, 1999). The ESU includes all naturally spawned populations of summer-run chum salmon in Hood Canal and its tributaries as well as populations in Olympic Peninsula rivers between Hood Canal and Dungeness Bay, Washington. The agency recently conducted a review to update the ESU's status, taking

into account new information and considering the net contribution of artificial propagation efforts in the ESU. We recently published the results of this review and concluded that Hood Canal summer-run chum salmon (including eight hatchery programs) should remain listed as threatened (70 FR 37160; June 28, 2005).

There are 88 occupied and unoccupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 12 watersheds within the spawning range of this ESU. There are also 386 miles in five marine nearshore zones within Puget Sound that meet the definition of critical habitat. Of the watersheds within the ESU boundaries, three received a medium rating, and nine received a high rating of conservation value to the ESU (NMFS 2005a). Five nearshore marine areas also received a rating of high conservation value. Figure D.6(a) shows a map of Hood Canal watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

Sixteen historical demographically independent populations of Hood Canal summer-run chum have been identified for this ESU: eight extant populations (the Union River, Lilliwaup Creek, Hamma Hamma River, Duckabush River, Dosewallips River, Big/Little Quilcene River, Snow and Salmon creeks, Jimmycomelately Creek populations), and eight extirpated or possibly extirpated populations (the Dungeness River, Big Beef Creek, Anderson Creek, Dewatto Creek, Tahuya River, Skokomish River, Finch Creek, and Chimacum Creek populations) (WDFW and Point No Point Treaty Tribes 2000). The Puget Sound TRT has identified 5 "geographic regions of diversity and correlated risk" in Puget Sound (Ruckelshaus et al. 2002). The regions are based on similarities in hydrographic, biogeographic, geologic, and catastrophic risk characteristics and where groups of populations have evolved in common (Ruckelshaus et al. 2002). The Hood Canal summer-run chum salmon ESU occupies two of these regions – the Strait of Juan de Fuca and Hood Canal. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such regions in an ESU (Ruckelshaus et al. 2002, McElhany et al. 2003). Local recovery planners completed the Hood Canal and Strait of Juan de Fuca Summer Chum Recovery plan in late June of 2005. The Biological Team considered the available TRT products and a previously completed local recovery plan (WDFW and Point No Point Treaty Tribes 2000) in rating each watershed, but did not have the benefit of the more recent local recovery plan. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designations.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are two facilities located within the range of the Hood Canal summer-run chum ESU, controlled by the military, with Integrated Natural Resource Management Plans: (1) Naval Submarine Base, Bangor; and (2) Naval Ordinance Center, Port Hadlock (Indian Island). As described previously, and in separate documents, we have determined that the military's management of lands covered by these INRMPs provides benefits to the species. The occupied stream reaches within these military lands therefore do not qualify for designation pursuant to section 4(b)(1) of the ESA.

There are also six Navy security or restricted zones within the range of this ESU, and some of these overlap with INRMP areas. As described previously, we recommend designating a narrow nearshore zone in non-INRMP areas but excluding deeper nearshore waters (beyond mean lower low water) due to potential impacts on national security and our determination that the benefits of excluding these areas outweigh the benefits of designating them.

There are two Indian reservations within the range of Hood Canal summer-run chum – (1) Jamestown S'Klallam tribe, and (2) Skokomish tribe. The amount of Indian land overlapping areas eligible for designation is identified in Table 9. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these Indian lands outweigh the benefits of designating them.

There is one landowner with an approved HCP within the range of the Hood Canal summer-run chum - Washington Department of Natural Resources. The amount of HCP land overlapping areas eligible for designation is identified in Table 9. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these HCP lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table D.5 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that none of the habitat areas be excluded from designation, because the economic benefits of exclusion do not outweigh the benefits of designation. As described previously, and in separate documents, we recommend excluding the 13 miles of habitat areas overlapping with Indian lands.

Conclusion

After the exclusions discussed above (which are also summarized in Table 9), the habitat areas being recommended for designation include approximately 88 stream miles occupied by this ESU and 8 stream miles that were unoccupied at the time of listing. These habitat areas are well distributed within and among the two geographic regions of diversity and correlated risk identified by the Puget Sound TRT. The recommended critical habitat designation for the Hood Canal summer-run chum ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the eight extant populations in this ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Hood Canal summer-run chum ESU.

Table 9. Summary of Exclusions for Hood Canal Summer-run Chum Salmon

Conservation Value	Number of Watersheds or Nearshore Areas	Total Stream Miles of Eligible Habitat	Stream or Nearshore Miles Excluded From Designation			
			National Security Impacts[a]	Indian Lands	Habitat Conservation Plans	Economic
High	9	60			4	
High (nearshore)	5	402	16	9		
Medium	3	28		4	1	
Low	0					

[a]These miles are ineligible for consideration because they overlap with DOD lands that are covered by an INRMP.

6. Columbia River chum salmon

The Columbia River chum salmon ESU was listed as a threatened species in 1999 (64 FR 14508; March 25, 1999). The ESU includes all naturally spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon (64 FR 14508; March 25, 1999). The agency recently conducted a review to update the ESU's status, taking into account new information and considering the net contribution of artificial propagation efforts in the ESU. We recently published the results of this review and concluded that Columbia River chum salmon (including three hatchery programs) should remain listed as threatened (70 FR 37160; June 28, 2005).

There are 715 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 20 watersheds within the range of the ESU. Of these watersheds, three received a medium rating, and 17 received a high rating of conservation value to the ESU (NMFS 2005a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.6(a) shows a map of Columbia River watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

The Willamette/Lower Columbia River TRT identified 16 historical demographically independent populations of chum in the Columbia River: the Youngs Bay, Grays River, Big Creek, Elochoman River, Clatskanie River, Mill Creek, Scappoose Creek, Cowlitz River fall-run and summer-run, Kalama fall-run, Salmon Creek fall-run, Lewis River fall-run, Clackamas River fall-run, Washougal River fall-run, Sandy River fall-run, Lower Gorge tributaries fall-run, and the Upper Gorge tributaries fall-run populations (Myers et

al. 2003). All but two of these historical populations appear to have been extirpated, or nearly so. Although the historical record for Columbia River chum salmon is limited, it is clear that chum salmon were present in most tributaries to the lower Columbia River and to some extent were present in the mainstem (Myers et al. 2003). The Columbia River chum salmon ESU inhabits three ecological zones (Coast Range, Cascade, and Columbia Gorge) and contains a single life-history type (fall run). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of ecological zones (Ruckelshaus et al. 2002, McElhany et al. 2003). A draft recovery plan for the Washington management unit of this ESU was completed by the Lower Columbia Fish Recovery Board (LCFRB) and released by NMFS for public comment in April 2005. NMFS expects to use this plan as an interim regional recovery plan until a plan for the whole ESU is completed. A preliminary draft plan for Oregon areas of the ESU is expected by the end of 2005. The Biological Team considered LCFRB plan and the TRT products in rating each habitat area, but did not have the benefit of regional recovery plans throughout the range of this ESU. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of Columbia River chum. There are also no Indian reservations within this range. There is one landowner with an approved HCP within the range of the Columbia River chum ESU - Washington Department of Natural Resources. The amount of HCP land overlapping areas eligible for designation is identified in Table 10. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these HCP lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table D.6 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that one medium-value habitat area be excluded from designation because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.6(b) shows the areas being recommended for exclusion. They include three stream miles, representing less than one percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 3 percent of the impact that would occur if all habitat areas were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Columbia River chum ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 10), the habitat areas being recommended for designation include approximately 708 stream miles occupied by this ESU – nearly 100 percent of its present range. The recommended critical habitat designation for the Columbia River chum ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the two extant populations in this ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Columbia River chum ESU.

Table 10. Summary of Exclusions for Columbia River Chum Salmon

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High	17	702			4	
Medium	3	13				3
Low	0					

7. Ozette Lake sockeye salmon

The Ozette Lake sockeye salmon ESU was listed as a threatened species in 1999 (64 FR 14528; March 25, 1999). The ESU includes all naturally spawned populations of sockeye salmon in Ozette Lake and streams and tributaries flowing into Ozette Lake, Washington. The agency recently conducted a review to update the ESU's status, taking into account new information and considering the net contribution of artificial propagation efforts in the ESU. We recently published the results of this review and concluded that Puget Sound Chinook salmon (including two hatchery programs) should remain listed as threatened (70 FR 37160; June 28, 2005).

There is one subbasin within the Ozette Lake sockeye ESU, composed of a single watershed. This watershed was rated as having a high conservation value to the ESU (NMFS 2005a). Figure D.7 shows a map of the Ozette Lake watershed occupied by the ESU.

Recovery Planning Status

The Puget Sound TRT considers the Ozette Lake sockeye ESU to be comprised of one historical population with multiple spawning aggregations (Ruckelshaus et al. 2001, 2002). A local technical team (the Lake Ozette Steering Committee) has developed initial technical assessments and preliminary recovery strategies. The Makah tribe intends to complete the technical analysis of the factors limiting recovery of Ozette Lake sockeye and develop an initial draft recovery plan for the ESU by the end of 2005.

NOAA Fisheries will support that effort with both technical and recovery planning staff assistance.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans
There are no lands controlled by the military or designated for its use within the range of Ozette Lake sockeye ESU. There is one Indian reservation (Makah tribe) within the spawning range of this ESU. The amount of Indian land overlap relative to areas eligible for designation are identified in Table 11. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on this HCP's lands outweigh the benefits of designating them.

There is also one landowner with an approved HCP within the range of the Columbia River chum ESU -Washington Department of Natural Resources. The amount of HCP land overlap relative to areas eligible for designation are identified in Table 11. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on this HCP's lands outweigh the benefits of designating them.

As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these Indian lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions
Table D.7 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

This ESU is composed of a single watershed which was rated as having a high conservation value. Only those areas on tribal land are recommended for exclusion; no exclusions are recommended based on economic impacts. We have concluded that exclusion of these areas would not significantly impede conservation of the Ozette Lake sockeye salmon ESU.

Conclusion
After the exclusions discussed above (which are also summarized in Table 11), the habitat areas being recommended for designation include approximately 41 miles of stream and lake habitat. The designated areas include approximately 93% of all occupied areas and most of the historical range of the species. Therefore, we conclude that the recommended exclusions will not result in extinction of the Ozette Lake sockeye ESU.

Table 11. Summary of Exclusions for Ozette Lake Sockeye Salmon

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible	Stream Miles Excluded From Designation			
			National Security	Indian Lands	Habitat Conservation	Economic

		Habitat	Impacts		Plans	
High	1	44		<1	2	
Medium	0					
Low	0					

8. Upper Columbia River steelhead

The Upper Columbia River steelhead ESU was listed an endangered species in 1997 (62 FR 43937; August 18, 1997). The ESU includes all naturally spawned populations of steelhead in streams in the Columbia River Basin upstream from the Yakima River, Washington, to the U.S.-Canada border (62 FR 43937; August 18, 1997). The agency recently conducted a review to update the ESU's status, taking into account new information, evaluating component resident rainbow trout populations, and considering the net contribution of artificial propagation efforts in the ESU. We have proposed that Upper Columbia River *O. mykiss* (steelhead and rainbow trout, inclusive) be listed as threatened (69 FR 33102; June 14, 2004). Additionally, we have proposed that the listing include resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations (69 FR 33102; June 14, 2004). We have also proposed that the listing include six artificial propagation programs considered part of the ESU (69 FR 33102; June 14, 2004). The final listing determination for all *O. mykiss* ESUs was extended by six months (70 FR 37219, June 28, 2005). The final critical habitat designation includes designations based on the final listing status as of the time of the designation. We will revise the critical habitat designations if necessary following a final listing determination.

There are 1,332 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 42 watersheds within the range of the ESU. Of these watersheds, three received a low rating, eight received a medium rating, and 31 received a high rating of conservation value to the ESU (NMFS 2005a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.8. shows a map of Upper Columbia River watersheds occupied by the ESU and eligible for designation.

<u>Recovery Planning Status</u>

Five populations are identified for the Upper Columbia River *O. mykiss* ESU: the Wenatchee River, Methow River, Entiat River, Okanogan Basin, and Crab Creek populations. The Interior Columbia Basin Technical Recovery Team (ICBTRT 2003 and 2005) placed these populations into a single major population grouping based on life-history type and ecological spawning zone. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of the ESU (Ruckelshaus et al. 2002, McElhany et al. 2003, McClure 2004 [pers comm.]). Subbasin assessments and plans have been completed for each subbasin through the Northwest Power and Conservation Council. Recovery planners are now using those subbasin plans

and TRT products to develop ESA recovery plans. Draft recovery plans are expected by the end of 2005. The Biological Team considered the available subbasin plans and TRT products in rating each watershed. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There is one facility located within the range of the upper Columbia River steelhead ESU controlled by the military with an INRMP, the Yakima Training Center. As described previously, and in separate documents, we have determined that the military's management of lands covered by this INRMP provides benefits to the species. The occupied stream reaches within these military lands therefore are precluded from designation pursuant to section 4(b)(1) of the ESA.

There is one Indian reservation (Colville tribe) within the spawning range of the Columbia steelhead ESU. The amount of Indian land overlapping areas eligible for designation is identified in Table 12. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these Indian lands outweigh the benefits of designating them.

There are no lands covered by current habitat conservation plans directed at salmon or steelhead conservation.

Description of Economic Impacts

Table D.8 shows the total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that two low conservation value habitat areas and one medium-value area be excluded in their entirety, and the tributary-only portions of one medium-value area with a high value connectivity corridor be excluded from designation, because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.8(b) shows those habitat areas being recommended for exclusion. They include six total stream miles, representing less than one percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is 23 percent of the impact that would occur if all habitat areas were designated. Combined with the excluded habitat areas on Indian lands, and the lands precluded from designation by an INRMP, the total stream miles not recommended for designation represent approximately five percent of the total stream miles occupied by this ESU.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Upper Columbia River steelhead ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 12), the habitat areas being recommended for designation include approximately 1,262 stream miles occupied by this ESU. These habitat areas are well distributed across the geographical area occupied by the four identified populations. The recommended critical habitat designation for the upper Columbia River steelhead ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the four populations in this ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Upper Columbia River steelhead ESU.

Table 12. Summary of Exclusions for Upper Columbia River Steelhead

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High	31	1,199	10	43		
Medium	8	121		2		4
Low	3	12		9		2

9. Snake River Basin steelhead

The Snake River Basin steelhead ESU was listed as a threatened species in 1997 (62 FR 43937; August 18, 1997). The ESU includes all naturally spawned populations of steelhead in streams in the Snake River Basin of southeast Washington, northeast Oregon, and Idaho. The agency recently conducted a review to update the ESU's status, taking into account new information, evaluating component resident rainbow trout populations, and considering the net contribution of artificial propagation efforts in the ESU. We have proposed that Snake River Basin *O. mykiss* (including steelhead and rainbow trout) remain listed as threatened (69 FR 33102; June 14, 2004). Additionally, we have proposed that the listing include resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations. Recent genetic data also suggest that native resident *O. mykiss* above Dworshak Dam on the North Fork Clearwater River are part of this ESU. We have proposed that these native resident *O. mykiss* populations above Dworshak Dam on the North Fork Clearwater River also be considered part of the Snake River Basin *O. mykiss* ESU. We have also proposed that the listing include six artificial propagation programs considered part of the ESU. The final listing determination for all *O. mykiss* ESUs was extended by six months (70 FR 37219, June 28, 2005). The final critical habitat designation includes designations based on the final listing status as of the time of the designation. We will revise the critical habitat designations if necessary following a final listing determination.

There are 8,225 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 289 watersheds within the range of this ESU. Of these watersheds, 14 received a low rating, 44 received a medium rating, and 231 received a high rating of conservation value to the ESU (NMFS 2005a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.9 shows a map of Snake River Basin watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

The Interior Columbia Basin TRT (ICBTRT 2003 and 2005) has identified 24 demographically independent populations in 5 "major groupings" in the Snake River Basin *O. mykiss* ESU: the Lower Snake group (including the Tucannon River and Asotin Creek populations); Clearwater group (including the Lower Clearwater, South Fork, Lolo Creek, Lochsa River, and Selway River populations); Grande Ronde group (including the Lower Grande Ronde, Joseph Creek, Wallowa River, and Upper Grande Ronde populations); Salmon River group (including the Little Salmon, South Fork, Secesh River, Chamberlain Creek, Big/Camas/Loon, Upper Middle Fork, Panther Creek, North Fork, Lemhi River, Pahsimeroi River, East Fork, and Upper mainstem populations); and Imnaha group (including the Imnaha River population). Despite geographic separation from other spawning areas, the TRT did not identify Hells Canyon as an independent population but noted that maintaining this area may be important for ESU viability and other recovery goals. The groupings of populations are based on similarities in genetic distances, distances between spawning aggregates, life history, and habitat or environmental considerations. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such groupings in an ESU (Ruckelshaus et al. 2002, McElhany et al. 2003, McClure 2004 [pers comm.]). Subbasin assessments and plans have been completed for each subbasin through the Northwest Power and Conservation Council. Recovery planners are now using those subbasin plans and TRT products to develop ESA recovery plans. Draft recovery plans are expected by the end of 2005. The Biological Team considered the available subbasin plans and TRT products in rating each watershed. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of the Snake River Basin steelhead ESU. There is one Indian reservation (Nez Perce tribe) within the spawning range of this ESU. The amount of Indian land overlapping areas eligible for designation is identified in Table 13. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these Indian lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table D.9 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that seven low conservation value habitat areas and four medium-value areas be excluded in their entirety, and the tributary-only portions of two low-value areas be excluded, because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.9(a) shows those areas being recommended for exclusion. Including the tribal lands recommended for exclusion, a total of approximately 173 occupied stream miles are being recommended for exclusion from designation, representing approximately two percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately three percent of the impact that would occur if all habitat areas were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Snake River steelhead ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 13), the habitat areas being recommended for designation include approximately 8,049 stream miles occupied by this ESU. These habitat areas are well distributed across the geographical area occupied by the 25 demographically independent populations within this ESU. The recommended critical habitat designation for the Snake River Basin steelhead ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Snake River steelhead ESU.

Table 13. Summary of Exclusions for Snake River Steelhead

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High	231	7,598		27		
Medium	44	462		12		27
Low	14	165				107

10. Middle Columbia River steelhead

The Middle Columbia River steelhead ESU was listed as a threatened species in 1999 (64 FR 14517; March 25, 1999). The ESU includes all naturally spawned populations of steelhead in streams from above the Wind River, Washington, and the Hood River, Oregon (exclusive), upstream to, and including, the Yakima River, Washington,

excluding steelhead from the Snake River Basin. The agency recently conducted a review to update the ESU's status, taking into account new information, evaluating component resident rainbow trout populations, and considering the net contribution of artificial propagation efforts in the ESU. We have proposed that Middle Columbia River *O. mykiss* (including steelhead and rainbow trout) remain listed as threatened (69 FR 33102; June 14, 2004). Additionally, we have proposed that the listing include resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations. We have also proposed that the listing include seven artificial propagation programs considered part of the ESU (69 FR 33102; June 14, 2004). The final listing determination for all *O. mykiss* ESUs was extended by six months (70 FR 37219, June 28, 2005). The final critical habitat designation includes designations based on the final listing status as of the time of the designation. We will revise the critical habitat designations if necessary following a final listing determination.

There are 6,529 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 114 watersheds within the range of this ESU. Of these watersheds, nine received a low rating, 24 received a medium rating, and 81 received a high rating of conservation value to the ESU (NMFS 2005a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.10 shows a map of the Middle Columbia River watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

The Interior Columbia Basin TRT (ICBTRT 2003 and 2005) has identified 17 extant demographically independent populations: the Fifteenmile Creek, Deschutes River – westside, Deschutes River – eastside, John Day River lower mainstem tributaries, South Fork John Day River, John Day River upper mainstem, Middle Fork John Day River, North Fork John Day River, Umatilla River, Walla Walla River, Touchet River, Rock Creek, Klickitat River, Toppenish Creek, Satus Creek, Naches River, and Yakima River upper mainstem populations. The historical White Salmon River population was extirpated with the construction of Condit Dam. The TRT arranged these populations into four major groups in this recovery planning area: (1) Cascades Eastern Slope Tributaries, (2) John Day River, (3) Umatilla and Walla Walla Rivers, and (4) Yakima River. These groupings are based on genetic and ecological characteristics, the proximity of major drainages, and distances between spawning aggregations. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of population groupings (Ruckelshaus et al. 2002, McElhany et al. 2003). Subbasin assessments and plans have been completed for each subbasin through the Northwest Power and Conservation Council. Recovery planners are now using those subbasin plans and TRT products to develop ESA recovery plans. Draft recovery plans are expected by the end of 2005. The Biological Team considered the available subbasin plans and TRT products in rating each watershed. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of the Middle Columbia River steelhead ESU. There are also no lands covered by current habitat conservation plans directed at salmon or steelhead conservation. There are three Indian reservations within the spawning range of this ESU: (1) Yakama tribe; (2) Umatilla tribe; and (3) Warm Springs tribe. The amount of Indian land overlapping areas eligible for designation is identified in Table 14. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these Indian lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table A.10 shows the estimated total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that six low conservation value habitat areas and one medium-value area be excluded in their entirety, and the tributary-only portions of two low- and 2 medium-value areas with high-value connectivity corridors be excluded from designation, because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.10(a) shows those areas being recommended for exclusion. They include 115 total stream miles, representing approximately two percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 10 percent of the impact that would occur if all habitat areas were designated. Including the tribal lands recommended for exclusion, a total of 714 occupied stream miles are being recommended for exclusion from designation, representing approximately 11 percent of the total stream miles occupied by the ESU.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Middle Columbia River steelhead ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 14), the habitat areas being recommended for designation include approximately 5,815 stream miles occupied by this ESU. These habitat areas are well distributed across the geographical area occupied by the 16 extant demographically independent populations within this ESU. The recommended critical habitat designation for the Middle Columbia River steelhead ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Middle Columbia River steelhead ESU.

Table 14. Summary of Exclusions for Middle Columbia River Steelhead

Conservation Value	Number of Watersheds	Total Stream Miles of	Stream Miles Excluded From Designation			
			National	Indian	Habitat	Economic

		Eligible Habitat	Security Impacts	Lands	Conservation Plans	
High	81	5,805		535		
Medium	24	588		63		56
Low	9	136		1		59

11. Lower Columbia River steelhead

The Lower Columbia River steelhead ESU was listed as threatened in 1997 (62 FR43937; August 18, 1997). The ESU includes all naturally spawned populations of steelhead in streams and tributaries to the Columbia River between the Cowlitz and Wind Rivers, Washington (inclusive), and the Willamette and Hood Rivers, Oregon (inclusive). Excluded are steelhead in the upper Willamette River Basin above Willamette Falls and steelhead from the Little and Big White Salmon Rivers in Washington. We have recently conducted a review to update the ESU's status, taking into account new information, evaluating component resident rainbow trout populations, and considering the net contribution of artificial propagation efforts in the ESU. We have proposed that Lower Columbia River *O. mykiss* remain listed as threatened (69 FR 33102; June 14, 2004). Additionally, we have proposed that the listing include resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations. We have also proposed that the listing include ten artificial propagation programs considered part of the ESU. The final listing determination for all *O. mykiss* ESUs was extended by six months (70 FR 37219, June 28, 2005). The final critical habitat designation includes designations based on the final listing status as of the time of the designation. We will revise the critical habitat designations if necessary following a final listing determination.

There are 2,673 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 42 watersheds within the range of the Lower Columbia River steelhead ESU. Of these watersheds, two received a low rating, 11 received a medium rating, and 29 received a high rating of conservation value to the ESU (NMFS 2005a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.11(a) shows a map of Upper Willamette watersheds occupied by the ESU and eligible for designation.

Recovery Planning Status

The Willamette-Lower Columbia River TRT has identified 23 historical demographically independent populations of Lower Columbia River steelhead: 18 Western Cascade Range tributaries populations (the Cispus River winter-run, Tilton River winter-run, Upper Cowlitz River winter-run, Lower Cowlitz River winter-run, North Fork Toutle River winter-run, South Fork Toutle River winter-run, Coweeman River winter-run, Kalama River winter-run, Kalama River winter-run, Kalama River summer-run, North Fork Lewis River winter-run, East Fork Lewis River winter-run, North Fork Lewis River summer-run, East Fork Lewis River summer-run, Clackamas River winter-run, Salmon

Creek winter-run, Sandy River winter-run, Washougal River winter-run, Washougal River summer run populations); and five Columbia River Gorge tributaries populations (the Lower Gorge tributaries winter-run, Upper Gorge tributaries winter-run, Wind River summer-run, Hood River winter-run, and Hood River summer-run populations) (Myers et al. 2003). The TRT has identified two life-history types (summer- and winter-run steelhead) and two ecological spawning zones (Cascade and Columbia Gorge) (McElhany et al. 2002). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such strata in the ESU (Ruckelshaus et al. 2002, McElhany et al. 2003). A draft recovery plan for the Washington management unit of this ESU was completed by the Lower Columbia Fish Recovery Board (LCFRB) and released by NMFS for public comment in April 2005. NMFS expects to use this plan as an interim regional recovery plan until a plan for the whole ESU is completed. A preliminary draft plan for Oregon areas of the ESU is expected by the end of 2005. The Biological Team considered LCFRB plan and the TRT products in rating each habitat area, but did not have the benefit of regional recovery plans throughout the range of this ESU. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of lower Columbia River steelhead. There are also no Indian reservations within this range. There are two landowners with approved HCPs within the range of the lower Columbia River steelhead ESU - Washington Department of Natural Resources and West Fork Timber Company. The amount of HCP land overlapping areas eligible for designation is identified in Table 15. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these HCP lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table A.11 shows the total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that one low conservation value habitat area and three medium-value areas be excluded in their entirety, and the tributary-only portions of one low-value area with a high-value connectivity corridor be excluded from designation, because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.11 shows those habitat areas being recommended for exclusion from designation as critical habitat. They include 225 total stream miles, representing eight percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 20 percent of the impact that would occur if all habitat areas were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Lower Columbia River steelhead ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 15), the habitat areas being recommended for designation include approximately 2,339 stream miles occupied by this ESU. These habitat areas are well distributed across the geographical area of the two life-history types and two ecological spawning zones identified by the TRT. The recommended critical habitat designation for the Lower Columbia River steelhead ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Lower Columbia River steelhead ESU.

Table 15. Summary of Exclusions for Lower Columbia River Steelhead

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High	29	1,998			84	
Medium	11	641			41	176
Low	2	34				34

12. Upper Willamette steelhead

The Upper Willamette River steelhead ESU was listed as a threatened species in 1999 (64 FR 14517; March 25, 1999). The ESU includes all naturally spawned populations of winter-run steelhead in the Willamette River, Oregon, and its tributaries upstream from Willamette Falls to the Calapooia River (inclusive). The agency recently conducted a review to update the ESU's status, taking into account new information, evaluating component resident rainbow trout populations, and considering the net contribution of artificial propagation efforts in the ESU. We have proposed that Upper Willamette River *O. mykiss* remain listed as threatened (69 FR 33102; June 14, 2004). Additionally, we have proposed that the listing include resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations. Although there are no obvious physical barriers separating populations upstream of the Calapooia from those lower in the basin, resident *O. mykiss* in these upper basins are quite distinctive both phenotypically and genetically and are not considered part of the ESU. This ESU does not include any artificially propagated *O. mykiss* stocks that reside within

the historical geographic range of the ESU. Hatchery summer steelhead occur in the Willamette Basin, but are an out-of-basin stock that is not included as part of the ESU.

There are 1,830 occupied stream miles meeting the definition of critical habitat for this ESU. These are grouped into habitat areas in 38 watersheds within the range of the upper Willamette River steelhead ESU. Seventeen habitat areas received a low rating, six received a medium rating, and 15 received a high rating of conservation value to the ESU (NMFS 2005a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value. Figure D.12(a) shows a map of Upper Willamette watersheds occupied by the ESU and eligible for designation. The final listing determination for all *O. mykiss* ESUs was extended by six months (70 FR 37219, June 28, 2005). The final critical habitat designation includes designations based on the final listing status as of the time of the designation. We will revise the critical habitat designations if necessary following a final listing determination.

Recovery Planning Status

The Willamette-Lower Columbia River TRT has identified four historical demographically independent populations of Upper Willamette River steelhead: the Mollala River, North Santiam River, South Santiam River, and Calapooia River populations (Myers et al. 2003). The TRT also notes that spawning winter-run steelhead have been observed in the Westside tributaries to the Upper Willamette River, however, the Westside tributaries are not considered to have historically constituted a demographically independent population (Myers et al. 2003). The TRT has determined that the Upper Willamette River *O. mykiss* ESU populations comprise a single life-history type (winter-run fish) and ecological zone (Willamette River) (McElhany et al. 2002). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the geographical range of the four populations in this ESU (Ruckelshaus et al. 2002, McElhany et al. 2003). A preliminary draft recovery plan for this ESU is expected by the end of 2005. This plan will be based on the Willamette subbasin plan, which was completed in May 2004. The Biological Team considered the TRT products in rating each watershed, but did not have the benefit of a recovery plan. We anticipate that, as recovery planning proceeds, we will have better information and may revise our recommendations for regarding critical habitat designation.

Military Areas, Indian Lands, Lands with Habitat Conservation Plans

There are no lands controlled by the military or designated for its use within the range of upper Willamette River steelhead. There are also no lands covered by current habitat conservation plans directed at salmon or steelhead conservation. There is one Indian reservation (Grand Ronde tribe) within the spawning range of the upper Willamette River steelhead ESU. The amount of Indian land overlapping areas eligible for designation is identified in Table 16. As described previously, and in separate documents, we have determined that the benefits of excluding the habitat areas on these Indian lands outweigh the benefits of designating them.

Consideration of Economic Impacts and Recommendations for Exclusions

Table A.13 shows the total and per capita local economic impacts for each of the habitat areas. Where an area contains both a connectivity corridor and tributary habitat, the table shows the impacts of designating each.

In summary, we recommend that nine low conservation value habitat areas be excluded in their entirety, and the tributary-only portions of eight low-value areas with high- or medium-value connectivity corridors be excluded from designation, because the economic benefits of exclusion outweigh the benefits of designation. The map in Figure D.12(b) illustrates those areas being recommended for exclusion. They include 543 stream miles, representing 30 percent of the total stream miles occupied by the ESU. The reduction in estimated economic impact is approximately 30 percent of the impact that would occur if all habitat areas were designated.

We have concluded that exclusion of any of these areas alone or of all areas in combination, would not significantly impede conservation of the Upper Willamette River steelhead ESU.

Conclusion

After the exclusions discussed above (which are also summarized in Table 16), the habitat areas being recommended for designation include approximately 1,276 stream miles occupied by this ESU. These habitat areas are well distributed across the geographical area occupied by the four demographically independent populations within this ESU. The recommended critical habitat designation for the Upper Willamette River steelhead ESU will complement recovery planning efforts aimed at conserving the geographic distribution and diversity of the ESU. Therefore, we conclude that the recommended exclusions will not result in extinction of the Upper Willamette River steelhead ESU.

Table 16. Summary of Exclusions for Upper Willamette River Steelhead

Conservation Value	Number of Watersheds	Total Stream Miles of Eligible Habitat	Stream Miles Excluded From Designation			
			National Security Impacts	Indian Lands	Habitat Conservation Plans	Economic
High[a]	15	803				
Medium	6	506		9		45
Low	17	521		2		498

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APPENDIX A: NATIONAL SECURITY MEMO

APPENDIX B: INDIAN LANDS MEMO

APPENDIX C: HCP MEMO

APPENDIX D: ECONOMIC EXCLUSION TABLES AND MAPS

MEMO July 25, 2005

To: PRD File
From: Donna Darm, Assistant Regional Administrator, PRD

cc: Kirsten Erickson, NOAA General Counsel, NW
Mike Crouse, Assistant Regional Administrator, HCD

Subject: Designating Critical Habitat for West Coast Salmon and Steelhead - Considerations for Department of Defense Lands and Impact on National Security

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Background

In a statement of national policy, the President observed that "the threat of terrorism is an inescapable reality of life in the 21st century." He stated that: "The country is now at war, and securing the homeland is a national priority." (Bush, 2002, "Securing the Homeland Strengthening the Nation") On November 24, 2003, the President signed the National Defense Authorization Act (NDAA) for Fiscal Year 2004 (Public Law No. 108-136) which resulted in several changes to the ESA. Key changes to the ESA related to our critical habitat assessment include those described in section 318 of the NDAA with respect to "Military Readiness and Conservation of Protected Species." Specifically, section 4(b)(2) of the ESA (16 U.S.C. 1533(b)(2)) was recently amended to read: "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 on 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." [emphasis added]

A separate memorandum from Matt Longenbaugh (HCD), evaluates 11 Department of Defense sites with draft or final Integrated Natural Resource Management Plans (INRMP). Based on the information and analysis contained in the memo, I have determined that each INRMP provides a benefit to the listed salmon or steelhead ESUs under consideration at the site. Therefore, the final rule the Region has prepared for the Assistant Administrator's signature finds that those areas subject to final INRMPs are not eligible for designation pursuant to section 4(a)(3)(B)(I) of the ESA (16 U.S.C. 1533(A)(3)). At the request of the Department of Defense (and in the case that an INRMP might not provide a benefit to the species), we have also analyzed the impacts on national security that may result from designating these and other military sites as critical habitat.

The Department of Defense has identified the following 24 military sites in Washington State where impacts to national security may result from designating critical habitat: (1) Naval Submarine Base, Bangor; (2) Naval Undersea Warfare Center, Keyport; (3) Naval Ordinance Center, Port Hadlock (Indian Island); (4) Naval Radio Station, Jim Creek; (5) Naval Fuel Depot, Manchester; (6) Naval Air Station Whidbey Island; (7) Naval Air Station, Everett; (8) Bremerton Naval Hospital; (9) Fort Lewis (Army); (10) Pier 23 (Army); (11) Yakima Training Center (Army); (12) Puget Sound Naval Shipyard; (13) Naval Submarine Base Bangor security zone; (14) Strait of Juan de Fuca naval air-to-surface weapon range, restricted area; (15) Hood Canal and Dabob Bay naval non-explosive torpedo testing

area; (16) Strait of Juan de Fuca and Whidbey Island naval restricted areas; (17) Admiralty Inlet naval restricted area; (18) Port Gardner Naval Base restricted area; (19) Hood Canal naval restricted areas; (20) Port Orchard Passage naval restricted area; (21) Sinclair Inlet naval restricted areas; (22) Carr Inlet naval restricted areas; (23) Dabob Bay/Whitney Point naval restricted area; and (24) Port Townsend/Indian Island/Walan Point naval restricted area. These sites overlap with habitat areas occupied by three of the 13 ESUs affected by the present critical habitat designation: Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, and upper Columbia River steelhead (Table 1). We examined a number of other sites identified by the military agencies (primarily armories and small Army facilities) and determined they are outside the areas under consideration.

Table 1: Military Sites within the Range of ESUs under Consideration for Critical Habitat Designation

ESU	Army or Navy INRMP Site	Navy Security Zone or Restricted Area
Puget Sound Chinook salmon	• Naval Submarine Base, Bangor • Naval Undersea Warfare Center, Keyport • Naval Ordinance Center, Port Hadlock (Indian Island) • Naval Radio Station, Jim Creek • Naval Fuel Depot, Manchester • Naval Air Station Whidbey Island • Naval Air Station, Everett • Bremerton Naval Hospital • Fort Lewis (Army) • Pier 23 (Army) • Puget Sound Naval Shipyard	• Naval Submarine Base Bangor security zone • Strait of Juan de Fuca naval air-to-surface weapon range, restricted area • Hood Canal and Dabob Bay naval non-explosive torpedo testing area • Strait of Juan de Fuca and Whidbey Island naval restricted areas • Admiralty Inlet naval restricted area • Port Gardner Naval Base restricted area • Hood Canal naval restricted areas • Port Orchard Passage naval restricted area • Sinclair Inlet naval restricted areas • Carr Inlet naval restricted areas • Dabob Bay/Whitney Point naval restricted area • Port Townsend/Indian Island/Walan Point naval restricted area
Hood Canal summer-run chum salmon	• Naval Submarine Base, Bangor • Naval Ordinance Center, Port Hadlock (Indian Island)	• Naval Submarine Base Bangor security zone • Hood Canal and Dabob Bay naval non-explosive torpedo testing area • Admiralty Inlet naval restricted area • Hood Canal naval restricted areas • Dabob Bay/Whitney Point naval restricted area • Port Townsend/Indian Island/Walan Point naval restricted area
Upper Columbia River steelhead	• Yakima Training Center (Army)	na

At our request, both the Army and Navy provided information clarifying site locations and describing the types of military activities that occur at these sites (see attachments). They also listed the potential changes in these activities and consequent national security impacts that critical habitat designation would cause in these areas. Both military agencies concluded that critical habitat designation at any of these sites would likely impact national security by diminishing military readiness. The possible impacts include: preventing, restricting, or delaying training or testing exercises or access to such sites; restricting or delaying activities associated with vehicle/vessel/facility maintenance and ordinance loading; delaying response times for ship deployments and overall operations; and creating uncertainties

regarding ESA consultation (e.g., reinitiation requirements) or imposing compliance conditions that would divert military resources. Also, both military agencies cited their ongoing and positive consultation history with NMFS and underscored cases where they are implementing best management practices to reduce impacts on listed salmonids.

Balancing designation against the impact on national security

The principal benefit of designating critical habitat is section 7's protection against adverse modification through federal agency action. All activities occurring on Defense Department land will require action, funding or permission by the Defense Department and thus be subject to a section 7 consultation if they affect listed salmon and steelhead. In addition, all Navy activities in Navy security zones will require section 7 consultation if they affect listed salmon and steelhead. This creates a strong connection between military lands and security zones and the protections of section 7.

As described above, there were 24 sites with national security impacts. The sites include 11 land-based facilities (all of which are subject to INRMPs) and 12 Navy security zones in Puget Sound. Tables 1-3 show the amount of habitat involved for Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, and Upper Columbia River steelhead, respectively.

Puget Sound Chinook Salmon ESU - The benefit of designating areas occupied by this ESU on military sites is that the Army and Navy would be required to ensure their activities are not likely to destroy or adversely modify the physical and biological features of the area that are essential to conservation of Puget Sound Chinook salmon. (Most of the activities in the affected areas would be activities initiated by the Army or Navy, since all of the stream miles and nearshore miles are adjacent to a military site) We found all of the areas have a high value for conservation of this ESU. The nearshore areas represent the larger proportion of areas affected (2 percent, versus 1 percent for stream areas). The loss and degradation of nearshore and estuarine areas in Puget Sound is considered to be one of the factors limiting the recovery of the Chinook ESU because the habitat loss has been so severe (e.g., King County Department of Natural Resources, 2001) and because the transition from fresh to salt water can be a period of high mortality (Pearcy, 1992). The high conservation value of these areas, the importance of these areas in the Puget Sound Chinook life cycle, and the historic loss of intact nearshore and estuary habitat, make these areas particularly significant for conservation of this ESU. The benefit of designation is reduced somewhat by the fact that all of the stream miles affected by national security impacts are covered by INRMPs, as discussed previously. The benefit of designation of all nearshore areas is also reduced when put in perspective of the total nearshore habitat available to this ESU. The nearshore areas excluded represent a relatively small percent of all available nearshore habitat. Table 1 shows the areas involved.

Table 1. Puget Sound Chinook – summary of critical habitat areas with impacts on national security

Conservation Rating	Number of stream or shoreline miles in military sites / Total number of stream or shoreline miles occupied by ESU	Military Site Overlap as % of Total Occupied
High (stream)	19 / 1,747	1%

High (shoreline)	48[a] / 2,376	2%
Medium	0 / 255	
Low	0 / 214	

The benefit of excluding these areas is that the Army and Navy 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 their part. Moreover, the Army and Navy may be required to modify some activities to ensure they would not be likely to adversely modify the critical habitat. The Army and Navy maintain that this additional commitment of resources, would likely reduce their readiness capability. Given that the Army and Navy are currently actively engaged in training, maintaining, and deploying forces in the current war on terrorism, this reduction in readiness could reduce the ability of the military to ensure national security.

Given the following considerations, we support a finding that the benefits of exclusion outweigh the benefits of designation:

- the high priority placed on national security by Congress and the Administration;
- the potential for critical habitat designation to have some impact on military readiness;
- the fact that most of these areas are covered by INRMPs that we find provide a benefit for the ESU, as implemented; and
- the fact that collectively these areas represent one percent of the stream miles and two percent of the nearshore miles available for this ESU.

Hood Canal Summer-run Chum Salmon ESU - The benefit of designating areas occupied by this ESU on military sites is that the Navy would be required to ensure their activities are not likely to destroy or adversely modify the physical and biological features of the area that are essential to conservation of Hood Canal summer-run chum. (Most of the activities in the affected areas would be activities initiated by the Navy, since all of the nearshore miles are adjacent to a military site.) We found all of the areas have a high value for conservation of this ESU. The nearshore areas are the only areas affected (no stream miles are within military areas). The loss and degradation of nearshore and estuarine areas in Puget Sound is considered to be one of the factors limiting the recovery of the chum ESU because the habitat loss has been so severe and because the transition from fresh to salt water may be a period of high mortality (Pearcy, 1992; Washington Department of Fish and Wildlife and Point No Point Treaty Council, 2000). The high conservation value of these areas, the importance of these areas in the chum life cycle, and the historic loss of intact nearshore and estuary habitat, make these areas particularly significant for conservation of this ESU. The benefit of designation is reduced somewhat by the fact that all of the nearshore stream miles affected by national security impacts are covered by INRMPs, as discussed previously. The benefit of designation of all Navy areas is also reduced somewhat when put in perspective of the total nearshore habitat available to this ESU – four percent of the total nearshore habitat available. This is not an insignificant amount. However, there is only a small additional

a Approximately 109 miles of occupied shoreline overlap with Navy sites in the range of this ESU. However, after consulting with the Navy, we are designating critical habitat in a narrow nearshore zone (from extreme high tide down to mean lower low water (MLLW)) within Navy security zone areas that are not subject to an approved INRMP or associated with Department of Defense easements or right-of-ways. This narrow zone is expected to contain all of the activities likely to trigger a section 7 consultation but its designation is not likely to have significant impacts on national security. The "deeper" nearshore zone (i.e, from MLLW out to a depth of 30 meters) associated with these sites is being excluded from designation due to impacts on national security and is not included in the 19 miles cited in Table 1a.

exclusion being considered for nearshore areas for this ESU – another 2 percent for Indian lands. The total being considered for exclusion, then, is only 6 percent.

Table 2. Hood Canal summer-run chum - summary of critical habitat areas with impacts on national security

Conservation Rating	Number of stream or shoreline miles in military sites / Total number of stream and shoreline miles occupied by ESU	Military Site Overlap as % of Total Occupied
High (stream)	0 / 60	
High (shoreline)	16[b] / 402	4%
Medium	0 / 28	
Low	0 / 214	

The benefit of excluding these areas is that the Navy 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 Navy. Moreover, the Navy may be required to modify some of its activities to ensure they would not be likely to adversely modify the critical habitat. The Navy maintains that this additional commitment of resources, would likely reduce its readiness capability. Given that the Navy is currently actively engaged in training, maintaining, and deploying forces in the current war on terrorism, this reduction in readiness could reduce the ability of the military to ensure national security.

Given the following considerations, we support a finding that the benefits of exclusion outweigh the benefits of designation:

- the high priority placed on national security by Congress and the Administration;
- the potential for critical habitat designation to have some impact on the Navy's military readiness;
- the fact that these areas are covered by INRMPs that we find provide a benefit for the ESU, as implemented; and
- the fact that collectively these areas represent four percent of the nearshore miles available for this ESU.

Upper Columbia River Steelhead ESU - The benefit of designating areas occupied by this ESU on military sites is that the Army would be required to ensure its activities are not likely to destroy or adversely modify the physical and biological features of the area that are essential to conservation of Upper Columbia River steelhead. (Most of the activities in the affected areas would be activities initiated by the Army, since all of the stream miles miles are on a military site.) We found all of the areas have a high value for conservation of this ESU. The benefit of designation is reduced somewhat

b Approximately 41 miles of occupied shoreline overlap with Navy sites in the range of this ESU. However, after consulting with the Navy, we are designating critical habitat in a narrow nearshore zone (from extreme high tide down to mean lower low water (MLLW)) within Navy security zone areas that are not subject to an approved INRMP or associated with Department of Defense easements or right-of-ways. This narrow zone is expected to contain all of the activities likely to trigger a section 7 consultation but its designation is not likely to have significant impacts on national security. The "deeper" nearshore zone (i.e, from MLLW out to a depth of 30 meters) associated with these sites is being excluded from designation due to impacts on national security and is not included in the 16 miles cited in Table 2a.

by the fact that all of the stream miles affected by national security impacts are covered by INRMPs, as discussed previously. The benefit of designation of all Army areas is also reduced when put in perspective of the total habitat available to this ESU.

Table 3. Upper Columbia River steelhead - summary of critical habitat areas with impacts on national security

Conservation Rating	Number of stream or shoreline miles in military sites / Total number of stream and shoreline miles occupied by ESU	Military Site Overlap as % of Total Occupied
High (stream)	10 / 1,199	1%
Medium	0 / 121	
Low	0 / 12	

The benefit of excluding these areas is that the Army 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 Army. Moreover, the Army may be required to modify some of its activities to ensure they would not be likely to adversely modify the critical habitat. The Army maintains that this additional commitment of resources, would likely reduce its readiness capability. Given that the Army is currently actively engaged in training, maintaining, and deploying forces in the current war on terrorism, this reduction in readiness could reduce the ability of the military to ensure national security.

Given the following considerations, we support a finding that the benefits of exclusion outweigh the benefits of designation:

- the high priority placed on national security by Congress and the Administration;
- the potential for critical habitat designation to have some impact on the Army's military readiness;
- the fact that these areas are covered by an INRMP that we find provides a benefit for the ESU, as implemented; and
- the fact that collectively these areas represent one percent of the stream miles available for this ESU.

Conclusion

I recommend that all of the military areas identified by the Department of Defense be excluded from critical habitat designation based on the conclusion that the benefits of exclusion outweigh the benefits of designation.

Attachments:

(1) Letter from R. Campagna (U.S. Navy) to D. Darm (NOAA Fisheries) dated October 22, 2004
(2) Letter from C. Schuster (U.S. Army) to D. Darm (NOAA Fisheries) dated October 25, 2004
(3) Map depicting DOD site overlap with areas under consideration for critical habitat.

DEPARTMENT OF THE NAVY
NAVY REGION NORTHWEST
1103 HUNLEY RD.
SILVERDALE, WASHINGTON 98315-1103

5090
Ser N45/ 3130
22 Oct 04

Ms. Donna Darm
Assistant Regional Administrator
Protected Resources Division
NOAA Fisheries, Northwest Region
525 NE Oregon Street
Portland, OR 97232-2737

Dear Ms. Darm,

We appreciate the opportunity to provide additional information pertaining to impacts on national security resulting from designating Salmon critical habitat in areas owned, controlled or used by the Navy in Washington, Oregon, and Idaho. We have reviewed your summary of impacts, list of all section 7 consultations that NOAA Fisheries has had to date with the Navy and the maps as provided in your letter of 22 September 2004.

Additional information on Navy impacts has been provided in enclosure 1, Summary of Impacts including comments on the list of section 7 consultations. Comments on the maps are as follows:

USN 6 Jim Creek: Property boundary on the east side should follow "Navy Installation Boundary" line.

USN 5 Naval Air Station Whidbey Island: Two areas on the map are covered by the Naval Air Station Whidbey Island INRMP and should be identified in red as DoD Site Boundary for overlap with the INRMP. The areas are as follows:

1. All of the proposed critical habitat within the Seaplane Base on the west side of Maylor Point internal in the tidal salt marsh.
2. The proposed critical habitat internal in the tidal lagoon area of Lake Hancock.

As shown in enclosure 1, the Navy routinely consults with NOAA Fisheries on military-related actions that may affect endangered species at the Navy sites listed in enclosure 1 and within the marine environment. From our review of your maps it appears that the near shore marine zone is the principal overlap area between your proposed critical habitat and where routine Navy activity occur for all but one site, ~~(~~Naval Station Jim Creek~~)~~. These near shore zones are vital security areas that provide the Navy with necessary training, testing, maintenance, moorage and security sites that are critical to sustaining combat-ready naval forces to defend our nation. Navy believes that critical habitat designation in any of these near shore zones could negatively impact national security in at least two ways as follows:

First, we are concerned that critical habitat designation may compel NOAA-F to reinitiate ESA section 7 consultation on activities previously consulted on to determine if the newly designated critical habitat would be degraded or adversely modified. Reinitiation of the consultation process would result in significant delays and stoppages to essential military readiness activities.

Second, there is considerable uncertainty about the types of conditions that NOAA Fisheries may impose if a Navy action would likely adversely modify critical habitat. As described briefly in our enclosure, the Navy conducts a variety of activities in all of the near shore areas identified that have the potential to affect salmonid habitat. Examples include: wave/shoreline impacts from transiting vessels; substrate and water quality impacts from pier and dry dock maintenance; dry dock operations, storm water controls and even habitat preservation. The Navy currently consults under the Magnusson Stevens Act and the ESA to modify these activities to reduce impact to the species and associated essential habitat. Additional burdens placed on these activities as a result of critical habitat designation not only could impose greater restrictions to the Navy, but also does not provide any additional benefit to the species.

We appreciate the NOAA Fisheries support and continued cooperation on these issues within the Northwest Region. If you have questions on the above, please contact Hayden Street, Navy Region North West at (360) 396-5089.

Sincerely,

R. M. CAMPAGNA
By direction

Enclosure (1) Summary of Impacts

Copy to:
CNI (N45)
CFFC (N7)
CPF (N01CE)
COMNAVREG NW

Enclosure 1: Summary of Impacts

Site Descriptions
Navy Sites
The sites described below are believed to overlap with habitat areas under consideration for designation as critical habitat for Pacific salmon and steelhead. The accompanying table identifies ESA consultations at or in the vicinity of these sites as reported in NOAA Fisheries' Public Consultation Tracking System.

Site USN1: NAVMAG Indian Island
• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon
• INRMP: Yes
• DOD Description of Facilities & Activities: NAVMAG Indian Island provides a mission critical service for receipt, storage, issuance, and inspection of Naval ordnance. NAVMAG Indian Island is required to retain full access and the ability to manage and maintain the ammunition pier, nearby marine areas, and established fair weather and foul weather anchorages.
DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: NAVMAG Indian Island routinely consults with NOAA Fisheries on maintenance and repair of existing waterfront facilities and new construction INRMP may be modified to include additional salmon enhancement requirements.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: In general the Navy believes that critical habitat designation would pose an unacceptable detriment to its installations' capability to adequately support military training and operations. Any degradation of this site's capacity or capability to fulfill ordnance support requirements of Fleet assets represents a significant impact on the installation's military readiness function.
• Correspondence Reference(s): March 26, 2004 letter from Clare Mendelsohn (DOD Regional Environmental Coordinator) to Donna Darm (NOAA Fisheries); April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN2: Naval Undersea Warfare Center, Division Keyport and Associated Ranges in Puget Sound [Including Sites USN10, USN12, and USN20]
• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon
• INRMP: Yes. Open water marine areas may need to be added
• DOD Description of Facilities & Activities: NUWC Keyport provides state-of-the-art infrastructure and capabilities in the Pacific Northwest that have been essential to the Navy's comprehensive underwater test and evaluation programs for undersea weapons, Unmanned Undersea Vehicles (UUVs), and related combat systems. NUWC Keyport's access to the adjacent waterfront and to underwater test ranges is mission-critical for NUWC's role in providing integrated Undersea Warfare Systems Dependability. The in-water environments in the Puget Sound area and surrounds are essential for Keyport's evaluation of systems in both surrogate and real war-fighting environments. The NUWC Shipboard Electronic Systems Evaluation Facilities (SESEFs) are land-based test sites that provide test and evaluation services to U.S. Navy, U.S. Coast Guard and Military Sealift Command activities as well as allied foreign navies. SESEF Ediz Hook is located at Latitude 48 degrees 8 minutes 24 seconds north and Longitude 123 degrees 24

minutes 12 seconds west. The Buoy is located at latitude 48 degrees 14 minutes 15 seconds north and longitude 123 degrees 21 minutes 45 seconds west.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: INRMP may be modified to include additional salmon enhancement requirements. Range Extension EIS in progress.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: In general the Navy believes that critical habitat designation would pose an unacceptable detriment to its installations' capability to adequately support military training and testing operations. NUWC testing activities to support military readiness requires precision underwater tracking capabilities and underwater range sites that offer diverse environments and varied water depths from the surface to over 1000 feet and from the shoreline to open ocean. The established in-water test sites adjacent to Keyport and the Dabob Bay Range Complex consisting of the Dabob Bay Range Site and its adjoining waters in Hood Canal are critical to these functions, and limitations on access to, use of, or enhancement of the capabilities and capacities of these ranges would curtail both testing and mission critical Fleet support functions performed by NUWC Keyport. Also continuous access and capacity to maintain the near shore area to support the SESEF capability is essential to the readiness function of this facility.
• Correspondence Reference(s): March 26, 2004 letter from Clare Mendelsohn (DOD Regional Environmental Coordinator) to Donna Darm (NOAA Fisheries); April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN3: Naval Submarine Base Bangor (now part of Naval Base, Kitsap (NBK))
• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon
• INRMP: Yes
• DOD Description of Facilities & Activities: SUBASE, Bangor is located on the east shore of Hood Canal. The pier facilities of the base are located along 4.5 linear miles of waterfront. The primary mission is to provide logistics and support to SSBN (TRIDENT) submarines. The main berthing facilities at SUBASE Bangor consist of four separate pier complexes.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: NBK Bangor routinely consults with NOAA Fisheries on maintenance and repair of existing waterfront facilities and new construction. INRMP may be modified to include additional salmon enhancement requirements.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: In general the Navy believes that critical habitat designation would pose an unacceptable detriment to its installations' capability to adequately support military training and operations. Access to, management of, and maintenance of Base piers, the associated near shore environment, and the consistent provision of all requisite waterfront instrumentation and support for home-ported vessels are critical to military readiness mission.
• Correspondence Reference(s): March 26, 2004 letter from Clare Mendelsohn (DOD Regional Environmental Coordinator) to Donna Darm (NOAA Fisheries); April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN4: Manchester Fuel Depot
• Affected ESU(s): Puget Sound chinook salmon

• INRMP: Yes
• DOD Description of Facilities & Activities: Located on the shores of Orchard Point, south of Rich Passage, Manchester Fuel Depot's primary mission is to provide bulk fuel and lubricants to area Navy afloat and shore activities. Fuel is also provided to Coast Guard ships, air stations, other Puget Sound Area U.S. military activities, and, on occasion, foreign navy ships.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Manchester Fuel Depot routinely consults with NOAA Fisheries on maintenance and repair of existing waterfront facilities and new construction. INRMP may be modified to include additional salmon enhancement requirements.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: Navy believes that critical habitat designation would generally pose an unacceptable detriment to its installations' capability to adequately support military training and operations. Access to, management of, and maintenance of Base piers, the associated near shore environment, and the consistent provision of all requisite waterfront instrumentation and support for fueling Navy vessels are critical to military readiness mission.
• Correspondence Reference(s): March 26, 2004 letter from Clare Mendelsohn (DOD Regional Environmental Coordinator) to Donna Darm (NOAA Fisheries); April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN5: Naval Air Station Whidbey Island

• Affected ESU(s): Puget Sound chinook salmon
• INRMP: Yes
• DOD Description of Facilities & Activities: The primary mission of NAS Whidbey Island is to provide the highest quality facilities, services and products to the naval aviation community and all organizations utilizing the sites at AULT Field, Seaplane Base and Outlying Field, Coupeville, all located on Whidbey Island. Tenant commands at NAS Whidbey Island, such as Explosive Ordnance Disposal Mobile Unit ELEVEN (EODMU 11), rely on accessible near shore and offshore environments to fulfill mission-essential training requirements. EODMU 11 provides combat support for the location, identification, rendering safe, recovery, field evaluation and disposal of all explosive ordnance in littoral and open ocean regions, including security and mine protection. The command's EOD Detachments support the five West Coast Carrier Battle Groups. EOD personnel are required to be fully qualified in diving techniques and require training in all aspects of EOD, as well as in performance of hull inspections, minor underwater repairs, and underwater photography services.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: NAS Whidbey Island routinely consults with NOAA Fisheries on maintenance and repair of existing waterfront facilities and new construction. INRMP may be modified to include additional salmon enhancement requirements.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: In general the Navy believes that critical habitat designation would pose an unacceptable detriment to its installations' capability to adequately support military training and operations. EOD Units commonly operate in areas less than 30 meters in depth and thus any critical habitat would adversely impact EOD's ability to train. Also, additional consultation may create delays having similar impacts on EOD units.

• Correspondence Reference(s): March 26, 2004 letter from Clare Mendelsohn (DOD Regional Environmental Coordinator) to Donna Darm (NOAA Fisheries); April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN6: Naval Station Jim Creek

• Affected ESU(s): Puget Sound chinook salmon
• INRMP: Yes
• DOD Description of Facilities & Activities: The facility is located along a headwater stream with limited salmon habitat overlap. The Station's primary mission is to operate a very low frequency radio transmitting facility that relays communications from Naval Command to elements of the Pacific Fleet. In addition to the day-to-day operation of the transmitter, the majority of the work at the station involves maintenance (e.g., vegetation control) of the large antenna field located across the valley floor.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Naval Station Jim Creek routinely consults with NOAA Fisheries on maintenance and repair of existing facilities and new construction. INRMP may be modified to include additional salmon enhancement requirements.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: Navy believes that critical habitat designation would generally pose an unacceptable detriment to its installations' capability to adequately support military training and operations. Access to, management of, and maintenance and operation of transmitter and antenna field to forward Navy communications to the Pacific Fleet are critical to military readiness mission.
• Correspondence Reference(s): March 26, 2004 letter from Clare Mendelsohn (DOD Regional Environmental Coordinator) to Donna Darm (NOAA Fisheries); April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN7: Naval Station Everett

• Affected ESU(s): Puget Sound chinook salmon
• INRMP: Draft
• DOD Description of Facilities & Activities: As with all Naval Stations, the mission of the facility is centered on a fully functional waterfront that meets all vessel support requirements and allows for efficient deployment of Naval assets for essential training missions and deployment. NAVSTA Everett is home to one destroyer, three frigates and one nuclear-powered aircraft carrier.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: NAVSTA Everett routinely consults with NOAA Fisheries on maintenance and repair of existing waterfront facilities and new construction. Draft INRMP may be modified to include additional salmon enhancement requirements.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: Navy believes that critical habitat designation would generally pose an unacceptable detriment to its installations' capability to adequately support military training and operations. Access to, management of, and maintenance of Base piers, the

associated near shore environment, and the consistent provision of all requisite waterfront instrumentation and support for home-ported vessels are critical to military readiness mission.
• Correspondence Reference(s): March 26, 2004 letter from Clare Mendelsohn (DOD Regional Environmental Coordinator) to Donna Darm (NOAA Fisheries); April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN8: Naval Station Bremerton (now part of Naval Base, Kitsap)

• Affected ESU(s): Puget Sound chinook salmon
• INRMP: Not required
• DOD Description of Facilities & Activities: The mission of the facility is centered on a fully functional waterfront that meets all vessel support requirements and allows for efficient deployment of Naval assets for essential training missions and deployment. NAVSTA Bremerton is home to three Fast Logistics Ships (AOEs) and one nuclear-powered aircraft carrier. Near shore infrastructure, pierside, and channel approach management and maintenance are mission-critical functions.
• DOD Description of Anticipated Future Consultations: NAVSTA Bremerton routinely consults with NOAA Fisheries on maintenance and repair of existing waterfront facilities and new construction.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: Navy believes that critical habitat designation would generally pose an unacceptable detriment to its installations' capability to adequately support military training and operations. Access to, management of, and maintenance of Base piers, the associated near shore environment, and the consistent provision of all requisite waterfront instrumentation and support for home-ported vessels are critical to military readiness mission.
• Correspondence Reference(s): April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN9: Puget Sound Naval Shipyard

• Affected ESU(s): Puget Sound chinook salmon
• INRMP: Not required.
• DOD Description of Facilities & Activities: PSNS & IMF Bremerton is an industrial repair and maintenance facility performing conversions, modernizations, maintenance and overhauls on surface ships and submarines. The mission of PSNS & IMF Bremerton is to support Fleet readiness. Restrictions on operations that result in delaying ship arrivals or departures would have a significant impact on national security. PSNS & IMF Bremerton is comprised of property bordered on the south by Sinclair Inlet, on the west by Naval Base Kitsap Bremerton site, and on the north and east perimeters by the City of Bremerton. PSNS & IMF Bremerton is the Pacific Northwest's largest Naval shore facility and one of Washington State's largest industrial installations. It is a heavily industrialized facility consisting of 179 acres of hard land, approximately 200 acres of submerged tidelands, approximately 2300 feet of riprap shoreline, 130 buildings, 6 dry-docks, and 7 piers.
• DOD Description of Anticipated Future •PSNS & IMF routinely consults with NOAA Fisheries on maintenance and repair of existing waterfront facilities and new construction. <u>Future consultations will include</u>:

- Routine repair and maintenance of piers and dry docks (recurring)
- Replacement of Pier B (2007)
- Reinitiation of consultation for dry dock operations (2008)

• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: The mission of the Navy is to maintain, train and equip combat-ready Naval forces capable of winning wars, deterring aggression and maintaining freedom of the seas. With the drawdown from a 600 to a 300 ship Navy and the war on terrorism, Naval forces must be both forward deployed and capable of quickly responding anywhere and anytime they are needed. To ensure the Fleet is capable of responding in this manner, the Navy redesigned fleet maintenance strategy to ensure that the proper number and type of ships are always ready to support national defense. Ships undergoing maintenance must complete their maintenance periods and return to service on time to ensure overall fleet readiness. The PSNS & IMF mission is to perform ship maintenance and repairs and return those ships to the Fleet within restricted timeframes. Once maintenance work on a ship begins, unknown problems are frequently found requiring additional repairs. Additional time, however, cannot be allotted without impacting the mission of the Navy. Similarly, there are times when the ship needs to be returned earlier than scheduled to avoid impacting national security. These conditions require that PSNS & IMF become more creative in performing maintenance and repair work in order to avoid impacting national security. Changes have to be made quickly. As a result, there will be times when we would not have the time to engage in consultation with NMFS over potential impacts to critical habitat. Any restrictions impacting the arrival, departure, or length of maintenance periods significantly impacts Fleet schedules and, therefore, the Navy's ability to deploy ships to defend our nation and its allies. A critical habitat designation would result in these types of restrictions and impact ship's maintenance schedules.

• Correspondence Reference(s): April 16, 2004 letter from Robert M. Campagna (Navy) to Donna Darm (NOAA Fisheries); July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN10: Naval Submarine Base, Bangor security zone

• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon

• INRMP: Possible partial overlap with NBK Bangor INRMP area

• DOD Description of Facilities & Activities: This open water marine area is a support and security zone for Naval Submarine Base Bangor.

• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are related to any changes affecting Naval Base Kitsap - Bangor.

• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Naval Submarine base Bangor and thus, the mission impacts are identical to those described above for Site USN3: Naval Submarine Base Bangor (now part of Naval Base, Kitsap).

• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN11: Strait of Juan de Fuca, Wash; air-to-surface weapon range, restricted area

• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon

• INRMP: Not required
• DOD Description of Facilities & Activities: Home ported ships and ships worked upon at PSNS use this open water marine area to test shipboard equipment prior to departing Puget Sound.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are all related to the operation and testing of ships and equipment.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: Navy believes that critical habitat designation would generally pose an unacceptable detriment to the ships from Puget Sound Installations. Navy ships use this range' (including associated security/restricted zones) to support military training and testing operations critical to these ships performing there defense missions all over the world.
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN12: Hood Canal and Dabob Bay, Wash; naval non explosive torpedo testing area

• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon (note: overlap with near shore zones <30 meters is very limited)
• INRMP: Not required.
• DOD Description of Facilities & Activities: This is a non-explosive torpedo open water marine area range. Also known as the Dabob Bay Range Complex consisting of range sites in Dabob Bay, Hood Canal Military Operating Areas, and the connecting waters.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are related to any changes affecting Naval Undersea Warfare Center, Division Keyport.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This range is one of the Associated Ranges in Puget Sound for Naval Undersea Warfare Center, Division Keyport and thus, the mission impacts are identical to those described above for Site USN2: Naval Undersea Warfare Center, Division Keyport and Associated Ranges
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN13: Strait of Juan de Fuca, eastern end; off the westerly shore of Whidbey; Island naval restricted areas

• Affected ESU(s): Puget Sound chinook
• INRMP: Possible partial overlap with Naval Air Station Whidbey Island INRMP area.
• DOD Description of Facilities & Activities: This is an open water marine area support area for operations at Naval Air Station Whidbey Island.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are all related to any changes affecting Naval Air Station Whidbey Island.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Naval Air Station Whidbey Island and thus, the mission impacts are identical to those described above for Site USN5: Naval Air Station Whidbey Island.

• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN14: Admiralty Inlet, entrance; naval restricted area

• Affected ESU(s): Puget Sound chinook
• INRMP: Not required
• DOD Description of Facilities & Activities: This is an open water marine area for support of operations at Naval Air Station Whidbey Island.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are all related to any changes affecting Naval Air Station Whidbey Island.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Naval Air Station Whidbey Island and thus, the mission impacts are identical to those described above for Site USN5: Naval Air Station Whidbey Island.
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN15: Port Gardner, Everett Naval Base, Naval Restricted Area, Everett, Washington

• Affected ESU(s): Puget Sound chinook
• INRMP: Possible partial overlap with Naval Station Everett INRMP area.
• DOD Description of Facilities & Activities: This is an open water marine area for support of ship and pier operations at Naval Station Everett.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are all related to any changes affecting Naval Station Everett.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Naval Base Everett and thus, the mission impacts are identical to those described above for Site USN7: Naval Station Everett.
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN16: Hood Canal, Bangor, naval restricted areas

• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon
• INRMP: Possible partial overlap with NBK Bangor INRMP area.
• DOD Description of Facilities & Activities: This is an open water marine areas and the security zone for magnetic silencing operations at Naval Submarine Base Bangor.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are all related to any changes affecting Naval Base Kitsap.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Naval Submarine base Bangor and thus, the mission impacts are identical to those described above for Site USN3: Naval Submarine Base Bangor (now part of Naval Base, Kitsap).

• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN17: Port Orchard Passage; naval restricted area

• Affected ESU(s): Puget Sound chinook
• INRMP: Possible partial overlap with Naval Undersea Warfare Center, Division Keyport INRMP area.
• DOD Description of Facilities & Activities: This is an open water marine area non-explosive torpedo range.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are all related to any changes affecting Naval Undersea Warfare Center, Division Keyport.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This range is one of the Associated Ranges in Puget Sound for Naval Undersea Warfare Center, Division Keyport and thus, the mission impacts are identical to those described above for Site USN2: Naval Undersea Warfare Center, Division Keyport and Associated Ranges
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN18: Sinclair Inlet; naval restricted areas

• Affected ESU(s): Puget Sound chinook
• INRMP: Not required.
• DOD Description of Facilities & Activities: This area is support and security zone for the Puget Sound Naval Shipyard.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: Specific issues are all related to any changes affecting the Puget Sound Naval Shipyard and or Naval Base Kitsap.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Naval Submarine base Bangor and thus, the mission impacts are identical to those described above for Site USN9: Puget Sound Naval Shipyard. . Additionally, if Sinclair Inlet is designated as critical habitat for salmon, changes would be expected for the improvement of the habitat. Currently, the waterfront of the shipyard is specifically configured to provide protection and accommodate movement of large Navy vessels at our piers and into our dry-docks. In order to continue our mission, we cannot alter these features. However, they do not provide ideal habitat for salmon. The listing of Sinclair Inlet as critical habitat would increase pressure to alter the waterfront of the Shipyard, negatively affecting our ability to maintain and repair ships and therefore, impacting national security. The work performed by PSNS & IMF is currently subject to the Endangered Species Act, the Clean Water Act and many other federal and state regulations that are protective of Sinclair Inlet. Excluding Sinclair Inlet, or a portion thereof, from the critical habitat designation will not jeopardize the existence of salmon in Sinclair Inlet.
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN19: Carr Inlet; naval restricted areas

• Affected ESU(s): Puget Sound chinook
• INRMP: Not required.
• DOD Description of Facilities & Activities: This is one of the Navy's open water marine area Test Range in Puget Sound for non-explosive acoustic research activities. Testing is similar to that done Site USN12: Hood Canal and Dabob Bay, Wash and specific to submarines.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: No site-specific issues described or anticipated.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This range is one of the Ranges in Puget Sound thus, the mission impacts are similar to those described above for Site USN2: Naval Undersea Warfare Center, Division Keyport and Associated Ranges.
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN20: Dabob Bay, Whitney Point; naval restricted area

• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon
• INRMP: Not required.
• DOD Description of Facilities & Activities This site is an open water marine area support zone for activates at Site USN12: Hood Canal and Dabob Bay, Washington, naval non-explosive torpedo testing area. The site is now part of the larger Dabob Bay Range Site of the Dabob Bay Range Complex, Site USN12.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: No site-specific issues described, but are related to any changes affecting Naval Undersea Warfare Center, Division Keyport
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Site USN12: Hood Canal and Dabob Bay, Wash; naval non explosive torpedo testing area and thus, the mission impacts are identical to those described above for Site USN12: Hood Canal and Dabob Bay, Wash; naval non explosive torpedo testing area
• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

Site USN21: Port Townsend, Indian Island, Walan Point, naval restricted area

• Affected ESU(s): Puget Sound chinook and Hood Canal summer-run chum salmon
• INRMP: Possible partial overlap with NAVMAG Indian Island INRMP area.
• DOD Description of Facilities & Activities: This is an open water marine area supporting ship loading and pier operations. Site USN1: NAVMAG Indian Island.
• DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation: No site-specific issues described, but are related to any changes affecting NAVMAG Indian Island.
• DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation: This security zone is an extension of Site USN1: NAVMAG Indian Island and thus, the mission impacts are identical to those described above for Site USN1: NAVMAG Indian Island

• Correspondence Reference(s): July 6, 2004, letter from R. Scott Markert (Navy) to Donna Darm (NOAA Fisheries).

NOAA Fisheries Record of Navy Consultations
Title of Consultation Date Received Status

Naval Magazine Indian Island Seahawk Exercises - ESA Section 7 consultations were completed from 1999 - 2004

Magnetic Silencing Facility Piling Repair and Replacement ESA Sect 7 consultation - completed October 2003

Naval Magazine Indian Island Joint Logistics Over the Shore (JLOTS) Exercise conducted with U.S. Army - ESA Sect 7 consultation in 2003.

Demolition of Whitney point Range Station Buildings. 5-Jan-01 Completed

U.S. Navy Explosive Ordinance Disposal Training Operations, Island County 9-Jan-01 Consultation in Process

Naval Magazine Indian Island Ammunition Wharf Piling Replacement 14-May-01 Completed

Ditch Repair on Wheeler Mountain 21-May-01 Completed

Naval Station Everett Piers Delta and Echo Pile Repairs Project & EFH 27-Aug-01 Completed

Log Boom Security Barrier at Naval Station Everett & EFH 1-Oct-01 Completed

Force Protection Barrier at Subase Bangor 10-Oct-01 Completed

Log Boom Security Barrier for Pier Bravo & EFH 12-Oct-01 Completed

Repair and Maintenance of Moorings E, F, and G at Naval Station Bremerton, Sinclair Inlet 29 Nov-01 Completed

Goldsborough Creek Bridge 26-Aug-02 Completed

Indian Island Ammunition Wharf Improvements 26-Aug-02 Completed

Puget Sound Naval Shipyard Pier 5 Repair 24-Sep-02 Completed

Dock Repair on Upper Twin Lake Navel Radio Station (T) Jim Creek 10-Oct-02 Completed

Navy X-band Radar - Docking Facility 20-Dec-02 Completed

Subdevron 5 Support Facilities 10-Jan-03 Completed

Bremerton Naval Complex Waterfront Security Barrier System 5-Feb-03 Completed

Bremerton Naval Complex Erosion Control 21-Apr-03 Completed
Phase II Remedial Action Operable Unit B Terrestrial, Erosion Control System - Bremerton Naval Complex 13-May-03 Completed

Munitions and Explosives of Concern Erosion Test at Naval Magazine Indian Island 20-May-03 Completed

Rock Groin Removal and Stream Maintenance 29-May-03 Completed

Naval Air Station Whidbey Island Fuel Pier Repair 9-Jul-03 Completed

Repair to Pier B Wave Attenuation Baffles 9-Jul-03 Completed

Stormwater Outfall Repair Puget Sound Naval Shipyard 28-Jul-03 Completed

Northend Landfill Naval Magazine Indian Island 1-Aug-03 Completed

Puget Sound Naval Shipyard and Intermediate Maintenance Facility
Pier 3 Fendering Replacement 20-Nov-03 Completed

Inwater Facilities at Fox Island Laboratory (Pierce County) 29-Dec-03 Completed

Aquatic Disposal Operable Unit B King County 10-Feb-04 Completed

Active-Acoustic Underwater Security Surveillance System Kitsap County 20-Feb-04 Completed

Culvert Replacement on Heins Creek Kitsap County 16-Mar-04 Completed

Intermediate Maintenance Facility, Pier 5 Repair and Maintenance
King County 17-Mar-04 Completed

Naval Magazine Indian Island Seahawk 2004 Exercises King County 7-May-04 Completed

Northwest Range Complex 30-Jun-04 Pre-Consultation/ Technical Assistance

Bangor Explosives Handling Wharf Piling Replacement Kitsap County 9-Sep-04 Reviewing Request for Completeness

Enclosure 2: Navy & Army Site Maps
Map USN1: NAVMAG Indian Island
Map USN2: Naval Undersea Warfare Center, Division Keyport and Associated Ranges in Puget Sound
Map USN3: Naval Submarine Base Bangor (now part of Naval Base, Kitsap)

Map USN4: Manchester Fuel Depot
Map USN5: Naval Air Station Whidbey Island
Map USN6: Naval Station Jim Creek
Map USN7: Naval Station Everett
Map USN8: Naval Station Bremerton (now part of Naval Base, Kitsap)
Map USN9: Puget Sound Naval Shipyard
Map USN10: Naval Submarine Base, Bangor security zone
Map USN11: Strait of Juan de Fuca, Wash; air-to-surface weapon range, restricted area
Map USN12: Hood Canal and Dabob Bay, Wash; naval non explosive torpedo testing area
Map USN13: Strait of Juan de Fuca, eastern end; off the westerly shore of Whidbey Island naval restricted areas
Map USN14: Admiralty Inlet, entrance; naval restricted area
Map USN15: Port Gardner, Everett Naval Base, Naval Restricted Area, Everett, Washington
Map USN16: Hood Canal, Bangor, naval restricted areas
Map USN17: Port Orchard Passage; naval restricted area
Map USN18: Sinclair Inlet; naval restricted areas
Map USN19: Carr Inlet; naval restricted areas
Map USN20: Dabob Bay, Whitney Point; naval restricted area
Map USN21: Port Townsend, Indian Island, Walan Point, naval restricted area
Map USA1: Pier 23
Map USA2a: Fort Lewis (freshwater)
Map USA2b: Fort Lewis (near shore marine)
Map USA3: Yakima Training Center

DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON DC 20310-0600

REPLY TO
ATTENTION OF

OCTOBER 25, 2004

Environmental Programs Directorate

Ms. Donna Darm, Assistant Regional Administrator, Protected Resources Division
National Oceanic and Atmospheric Administration - Fisheries
525 NE Oregon Street
Portland, Oregon 97232-2737

Dear Ms. Darm:

I am providing Army information pertaining to national security impacts that would result from designating critical habitat for steelhead and salmon on property owned, leased, or used by the Army. This responds to your letter on September 22, 2004.

Enclosed are revised installation summaries for Fort Lewis, Yakima Training Center, and Pier 23 that include details on potential changes to military activities and national security impacts that would result from critical habitat designations. It is impossible to quantify the cumulative impact of designations, but we estimate that 10-20% of the required training will either not be performed, or will only be performed infrequently. Any delays to, or restrictions on, the quality and intensity of training could compromise the readiness of troops, and have a potentially significant impact on national security.

I concur that National Guard Armories and small Army facilities are not within any of the areas under consideration for critical habitat designation. In cooperation with Mr. Stone, we have also determined Army's small Reserve sites are not within areas considered for critical habitat. The maps you provided need no further revision except the two additions identified for Yakima Training Center in the enclosure.

I appreciate this opportunity to work with you further on accomplishing effective conservation of steelhead and salmon while maintaining our Army readiness capability. Please continue to work with our point of contact, Mr. Bill Woodson, 703-601-1962.

Sincerely,

for H. A. Thomas COL, GS

Christopher E. Schuster
Colonel, U.S. Army
Director, Environmental Programs

Enclosure

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Site USA1: Pier 23

• **Affected ESU(s):** Puget Sound chinook

• **INRMP:** Yes

• **DOD Description of Facilities & Activities:** The Pier 23 property is operated and maintained by the Army Reserve, which leases the 7.4 acres of submerged lands and 3 acres of uplands from the Port of Tacoma. The Army Reserve owns, controls, and has command of the pier structure, all facilities on the pier, and all structures and improvements on the upland property. The property includes a pier, warehouse building, a trailer, storage areas, and parking. Pier 23 is located in a highly industrialized area in the northwestern end of the Port of Tacoma industrial yard and is situated between the Hylebos and Blair waterways along the shoreline of Commencement Bay. Adjacent activities to Pier 23 include Tyson Foods, Occidental Chemical, shipyards, warehouse facilities, and parking lots to the north and east. Directly south of the pier are a number of rail lines perpendicular to the shoreline, which were once used to launch large ships. Shoreline ownership includes the City of Tacoma, Port of Tacoma, Pierce County, State of Washington, Puyallup Indian Tribe, and private entities. Much of the public land is leased to private industrial and commercial enterprises. The area includes mostly paved surfaces surrounding a 15,000-square foot warehouse with some exposed soil, fill material, concrete reinforced riprap, and weeds occupying a narrow area along the southeastern border and southern shoreline. The landward half of the pier was constructed of timber prior to World War II, and a concrete extension was added in 1946. Pier 23 is currently used for ship maintenance and weekend training of reservists. The units that train at Pier 23 are transportation units and train using the Logistic Support Vessel (LSV), Landing Craft, Mechanized (LCM), tugs and barges, and the floating crane. Exercises involve the transfer of equipment from the shore to the watercraft. Either via the shore crane, the floating crane or roll on, roll off exercises where they drive High-Mobility Multi-Purpose Wheeled Vehicle (HMMWV) down the beach and onto the watercraft. Such exercises at Pier 23 are not only training, but operational in nature.

• **DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation:** The Integrated Natural Resources Management Plan (INRMP) for the US Army Reserve 70th Regional Readiness Command (RRC) is in the final stages of review and it contains measures for the protection of salmon habitat which are already being implemented. An endangered species management plan will also be developed that will now include additional salmon habitat conservation and enhancement requirements. An updated Pier 23 storm water pollution prevention plan and vessel response plan, removal of contaminated soil during construction activities, and sediment remediation work are just some of the efforts Pier 23 is undertaking to ensure protection of water quality and salmon habitat. The Army Reserve currently implements best management practices to minimize any impact to water quality and fish habitat including "parking" barges on the shallow end of the pier and being careful to not rev props when close to shore to minimize prop wash. In addition, shore exercises are done in conjunction with fish windows when fish are least likely to be in the area.

• **DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation:** Pier 23 and its associated facilities are required for the training of the 385th Transportation Battalion, 175th Floating Craft Company, 185th Medium Boat Company, 467th Transportation Terminal, 647th Cargo Documentation Detachment, 804th Movement Control Detachment, and 805th Logistics Support. These units use the pier facilities primarily for Army watercraft maintenance and for the training of reserve soldiers. At full operational capacity, up to 400 reservists will utilize the Pier 23 facilities. Critical Habitat (CH) designation on this facility would have a direct impact on unit training by delaying training that support the nationwide US Army military mission and the US Army Reserve's mission in worldwide deployment. Significant training restrictions may potentially cause a restationing of the operation as far away as Mare Island California, which would cost millions of dollars and leave untrained soldiers.

Site USA2: Fort Lewis

• **Affected ESU(s):** Puget Sound Chinook

• **INRMP:** Yes

• **DOD Description of Facilities & Activities:** Fort Lewis is an 86,176-acre military reservation located in western Washington. It is designated as a major military facility for both weapons qualifications and field training. Out-of-state Army units and units from allied foreign nations use the facilities including Gray Army Airfield. Dense forest covers much of the installation and is ideal for light infantry maneuvers, which are primarily conducted on foot. The training areas include forestlands, wetlands, grasslands, brush, and marine environments. Training areas are delineated into maneuver, impact, range, and other training areas. Open areas and drop zones provide adequate space for platoon and some company maneuver training. Off-road maneuver training areas include vehicle training, bivouac, and position digging. There are 187 training facilities (115 firing ranges, non-firing facilities, live-fire maneuver, and training areas) covering approximately 64,000 acres. Gunnery training activities occur on the ranges including restrictive usage of high explosive ordnance. Other training capabilities include: fixed artillery and mortar points, drop zones and an assault strip, non-firing training facilities including rappel and nuclear, biological, and chemical chambers, ammunition storage areas, and urban combat areas. Fort Lewis is in the process of transforming Army training to meet worldwide requirements for deployment and serve as the organizational and operational model for suitability of new equipment and training methods. This transformation will provide war-fighting commanders with increased options for small-scale contingencies without compromising readiness for a major theater of war.

• **DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation:** The two major future consultations are the Army Transformation and Resource Sustainability at Fort Lewis and Yakima Training Center, Washington and Fiscal Year 2005 Stationing Actions at Fort Lewis and Yakima Training Center, Washington. A biological assessment and essential fish habitat assessment has been prepared for both actions. The biological assessments address potential impacts to listed species and candidate species as appropriate. An initial determination of "may affect, but is not likely to adversely affect" Chinook salmon and steelhead is proposed in the documents as they incorporate Fort Lewis Regulation 420-5 which provides specific protection measures for fish species. Protection also is provided to salmonid species through the actions identified in the Integrated Natural Resources Management Plan (INRMP), which was required by the Sikes Act. Potential changes to military activities as a result of critical habitat designation could include: increased time to consult on specific training actions, additional funding would be necessary to include an assessment of potential impacts to critical habitat in each biological assessment and its associated environmental documents, alteration of training timing and activities, at specific locations, to include measures associated with critical habitat criteria.

• **DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation:** Increased costs to specific troop units would occur as they are responsible to pay for NEPA documents analyzing potential impacts of their actions

on critical habitat and listed species. In addition, the increased time necessary for consultations with NOAA Fisheries could hinder some types of training that rely on immediately available training locations. They could lose the flexibility to take advantage of situations that could enhance the training environment, should they be restricted by the timing requirements of formal or informal consultations. Current training sites that could be affected by the designation of critical habitat include: Muck Creek, Nisqually River, and the marine areas of Solo Point. Training activities that could be affected by the designation of critical habitat are: Muck Creek – changes in timing of crossings between training areas to avoid critical life stages; Nisqually River – changes in river crossings (vehicle and soldiers) to avoid critical life stages, changes in activities to defend and secure the bridge or attach the bridge to avoid pollutant increases, and changes in location or timing of placement of raft bridges to avoid critical life stages; and Solo Point – changes in frequencies or timing of diver actions, airborne jump actions, boat landings, onshore delivery of equipment, and swimming vehicles to avoid impacts to essential fish habitat and critical life stages. If designation of critical habitat results in alterations of current or planned future training actions, impacts to national security would occur. It is essential that a training environment be provided to ensure that troops are ready for any potential situation they may be exposed to once deployed. However, Fort Lewis believes that the existing management plans and regulations provide benefits to the species that outweigh the benefits of specifying Fort Lewis aquatic areas as critical habitat and would not result in the extinction of the species concerned.

• **Correspondence Reference(s):** May 3, 2004 letter from Richard A. Hoefert (Army) to Donna Darm (NOAA Fisheries).

Site USA3: Yakima Training Center

• **Affected ESU(s):** Upper Columbia River and Middle Columbia River O. mykiss

• **INRMP:** Yes

• **DOD Description of Facilities & Activities:** The Yakima Training Center (YTC) is situated in the Columbia River Basin of eastern Washington State. Currently, the YTC provides military training facilities and logistical support for cross-country maneuvers and operational live-fire training opportunities. Major military land uses at YTC include the cantonment area with residential, administrative, commercial, light industrial, and open space uses; training areas with maneuver, impact, firing ranges, and other special uses; and the Selah Airstrip and Vagabond Army Airfield. As a training facility, YTC provides the opportunity, facilities, and support for military units, including both active and reserve component forces, to enhance troop readiness and train for mobilization and post mobilization exercises. All branches of the armed forces and allied military units train at YTC to sustain and improve unit readiness for both wartime and contingency operations. In addition, Fort Lewis and YTC have been identified as one of the installations to be the lead in a transformation process for the Army's conversion into a more responsive, agile, and versatile force. This process will be initiated at Fort Lewis by the transformation and stand up of existing units to Interim Brigade Combat Teams. Fort Lewis/YTC is also conducting Stryker vehicle training. Stryker comprises two variants – the Infantry Carrier Vehicle and the Mobile Gun System. The Infantry Carrier Vehicle has eight additional configurations: Reconnaissance Vehicle, Mortar Carrier, Commanders Vehicle, Fire Support Vehicle, Engineer Squad Vehicle, Medical Evacuation Vehicle, Anti-tank Guided Missile Vehicle, and NBC Reconnaissance Vehicle. The armored wheeled vehicle is designed to enable the Stryker Brigade Combat Team to maneuver more easily in close and urban terrain while providing protection in open terrain.

• **DOD Description of Anticipated Future Consultations and Potential Changes to Military Activities as a Result of Critical Habitat Designation:** There are several anticipated future consultations (informal) that will commence in the near future pertaining to the following National Environmental Policy Act (NEPA) documents: Yakima Training Center Planning Supplement Environmental Assessment (EA) (Supplement to installation's Master Plan); Fiscal Year 2005 Stationing Actions at Fort Lewis and Yakima Training Center, Washington EA; Army Transformation and Resources Sustainability at Fort Lewis and Yakima Training Center, Washington, Environmental Impact Statement. All of these NEPA documents have draft Biological Assessments in which impacts to currently listed salmonid species and their habitat have been identified and evaluated. If critical habitat (CH) is designated on YTC, an additional analysis related to whether an adverse modification and/or destruction of CH would need to be completed for each of those projects. The species and their habitat have been considered both in the development and implementation of the installation's Integrated Natural Resources Management Plan (INRMP) and in the assessment of potential impacts from proposed actions and in past NEPA decisions. For each of the three aforementioned proposed actions, a

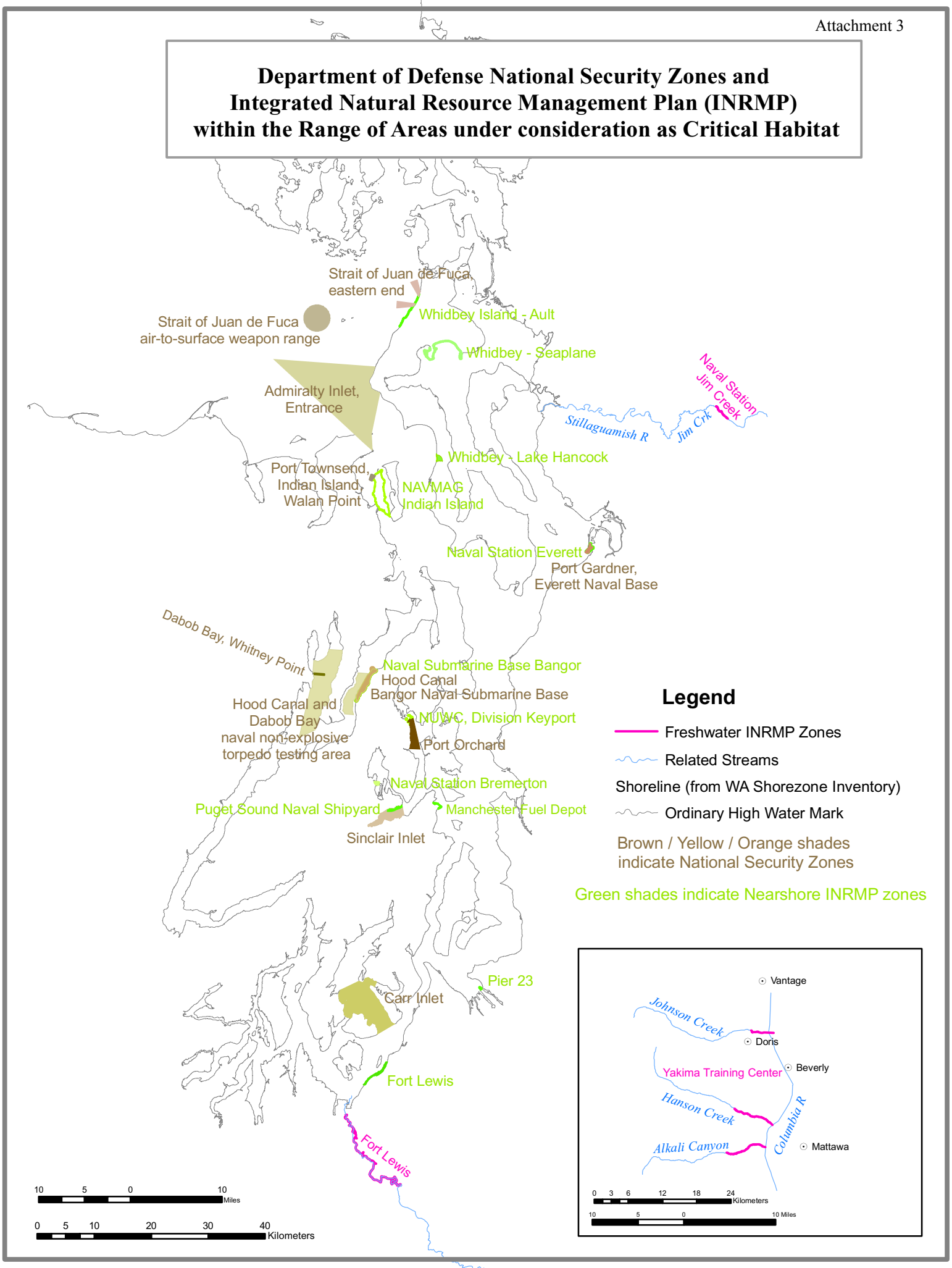
determination of "may affect, not likely to adversely affect" has been made as a result of the limited amount of suitable habitat available, the limited use of that habitat on the installation by the listed species, and the adequacy of existing regulatory mechanisms including protection measures, restoration activities, and mitigation measures.

• **DOD Description of National Security Impacts of Consultations or Changes to Activities as a Result of Critical Habitat Designation:** YTC currently consults on proposed actions with consideration for listed salmonids and their habitat. The impacts on national security from consultations or changes to activities is thought to be minor if it does not result in more "restrictive" measures for the protection and conservation of listed salmonids. Compliance requirements that would limit training opportunities will result in impacts to national security. The specific impacts would depend on what is proposed as CH and the extent at which activities, if any, would be restricted within and adjacent to CH. Restrictions on training activities in CH and restrictions on live fire exercises within CH drainages would result in impacts to training and national security. Terrain features within and adjacent to those areas proposed as CH are ideal for small unit (special forces) training exercises (to include live-fire exercises). The demand for these kinds of training areas and this type of training is increasing due to the increased number of small unit special operations currently taking place in the current war on terrorism. The trend for small special operations will also increase in the future as the anticipated threats in the future change to more terrorism related threats. Areas replicating those areas found in Iraq and Afghanistan are becoming disproportionately important in training soldiers in small unit special operations compared to traditional ranges and maneuver areas. In addition, Fort Lewis/YTC is the only installation in the continental United States where Stryker vehicle training is occurring. These forces are currently being deployed in Iraq as their training becomes complete. Under the worst-case scenario, designation of CH could result in limitations in the use of the Multi Purpose Range Complex, Multi Purpose Training Area and the Central Impact Area due to their potential fire impacts on CH. With current management that already focuses on protection and restoration, flexibility in providing the training opportunities that are required has enabled YTC to meet our national security needs. Any reduction in the ability of YTC to provide realistic training situations and trained soldiers would impact national security.

• **Map Corrections/Revisions:** Two additional sites on YTC (Johnson Creek, Lmuma Creek), as well as the two sites identified on the proposed CH map (Hanson Creek, Alkali Creek) constitute the four streams on YTC with existing fisheries and access to either the Columbia River or the Yakima River. That portion of Johnson Creek from where it leaves the installation's eastern boundary, west to the confluence of Foster Creek has both resident rainbow and steelhead, as well as, Chinook salmon. That portion of Lmuma Creek west of the Badger Pocket Road to where it leaves the installation at its western boundary has resident rainbow and potentially steelhead.

• **Correspondence Reference(s):** May 3, 2004 letter from Richard A. Hoefert (Army) to Donna Darm (NOAA Fisheries).

Department of Defense National Security Zones and Integrated Natural Resource Management Plan (INRMP) within the Range of Areas under consideration as Critical Habitat



MEMO July 25, 2005

To: PRD File

From: Donna Darm, Assistant Regional Administrator, PRD

cc: Kirsten Erickson, NOAA General Counsel, NW

Subject: Analysis of the Benefits of Designating versus the Benefits of Excluding Indian Lands from Critical Habitat for West Coast Salmon and Steelhead

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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 are 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 each affected salmon and steelhead evolutionarily significant unit (ESU). It then examines the benefits of excluding Indian lands, and concludes that the benefits of exclusion outweigh the benefits of designation because: 1) excluding Indian lands has offsetting conservation benefits for all of the listed ESUs and 2) excluding Indian lands benefits the federal government's policy of promoting respect for tribal sovereignty and self-governance. Based on this conclusion, we recommend the agency exercise its discretion under ESA section 4(b)(2) to exclude Indian lands from designation, if further analysis supports a determination that the exclusions will not result in extinction of the species, taking into account the conservation needs of the species and information regarding potential exclusions of military areas. To aid the reader, the following Table of Contents outlines the organization of this memo:

TABLE OF CONTENTS

Background 2
Procedural Background 2
Unique Federal Relationship with Indian Tribes 3
Unique Status of "Indian Country" and Indian Lands 3
Executive Policy Guides Treatment of Indian Lands in Designating Critical Habitat 4
The Relationship between the Federal and Tribal Governments is Unique and Longstanding 5
Benefits of Designation 7
Benefits of Exclusion 9
Exclusion has Conservation Benefits that Offset the Benefits of Designation 9
Exclusion Furthers Federal Policies Promoting Tribal Sovereignty and Self-Governance 13
Balancing Benefits of Exclusion against Benefits of Designation 15

Background

The Northwest Region is recommending critical habitat designations for 12 salmon and steelhead ESUs in the Pacific Northwest. There are 25 Indian tribes whose lands intersect with defined critical habitat of the 12 ESUs. Table 1 shows the tribes and the ESUs involved.

Table 1. Tribes with lands intersecting critical habitat areas for each ESU

1. Puget Sound Chinook Salmon	Jamestown S'Klallam, Lower Elwha-Klallam, Lummi, Muckleshoot, Nisqually, Nooksack, Port Gamble S'Klallam, Puyallup, Skokomish, Squaxin Island, Swinomish, Tulalip, Upper Skagit
2. Hood Canal Summer-run Chum Salmon	Jamestown S'Klallam, Skokomish
3. Ozette Lake Sockeye Salmon	Makah
4. Upper Columbia River Steelhead	Colville
5. Snake River Steelhead	Nez Perce
6. Middle Columbia River Steelhead	Umatilla, Warm Springs, Yakama
7. Upper Willamette River Steelhead	Grand Ronde

In addition, the attached maps show the location and size of the Indian lands in the context of the range of the listed ESUs.

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."

Procedural Background

On February 16, 2000 we designated critical habitat for these ESUs (65 FR 7764). In that designation we excluded Indian lands based "on a consideration of the federal government's trust responsibilities to Indian tribes, particularly as addressed" in the Secretarial Order, including our determination that designating such areas are not essential to the conservation of listed species, "and out of respect for tribal sovereignty over the management of Indian lands." We also noted in the determination that the combination of all Indian lands made up only a

minor portion (less than three percent) of the total watershed area for the 13 Columbia basin ESUs. Therefore, we determined that the critical habitat that was designated was sufficient to provide for the conservation of the species.

Those designations were subsequently vacated by a court order. *National Association of Homebuilders v. Evans,* 2002 WL 1205743 No. 00-CV-2799 (D.D.C.). On December 14, 2004 we published a proposed critical habitat designation, proposing exclusion of Indian lands based on a determination that exclusion would benefit conservation of the listed species by enhancing tribal participation in regional management forums and would benefit federal policies that promote respect for tribal sovereignty and self-governance. As required by the Secretarial Order – *American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act*, we met and consulted with tribes (tribal governments, staff, and intertribal organizations) both before and after issuing the proposed designations, to discuss possible impacts of designating critical habitat on Indian Lands. The tribes uniformly expressed opposition to the designation of critical habitat on their lands, both in meetings and in letters. Their view is that designation of critical habitat on their land will interfere with their sovereignty and their ability to govern their lands, and will hamper their ability to participate fully in the many regional processes established to manage and conserve salmon and steelhead across the landscape.

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[1] 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" (Cohen, p. 63).

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). Discussion regarding the future status of Indian lands should be consistent with these purposes.

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:

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[1] *Felix S. Cohen's Handbook of Federal Indian Law, 1982 Edition*, Rennard Strickland, et al, editors. Michie Bobbs-Merrill (1982).

(a) all lands within the limits of any reservation under the jurisdiction of the United States Government, not withstanding 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 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" (Cohen, p 28).

"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
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.

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

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)).

The Relationship between the Federal and Tribal Governments is Unique and Longstanding

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 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)

[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 *Cohen* and *Getches.*

- Recognition 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)

- **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 FRN (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 these ESUs, we first established those areas that meet the definition of critical habitat. For reasons described more fully in [CHART Report], we identified critical habitat areas as the occupied stream reaches within a watershed, as designated by the U.S. Geological Survey. In Puget Sound, we also identified nearshore areas meeting the definition of critical habitat, delineated using a mapping standard developed by Washington State. We asked teams of federal biologists to determine the relative conservation value of each area for each species (high, medium or low). Their evaluation provided information allowing us to determine the benefit of designating any particular watershed in a way that would aid the 4(b)(2) balancing test. The higher the conservation value of an area, the greater the benefit of the section 7 protection.

Table 2 shows the habitat that would be affected by a designation on Indian lands. The benefits of designation depend upon the extent of the habitat under consideration, its conservation value, and the types of federal activities in that area likely to undergo section 7 consultation.

Table 2: Number of stream miles and nearshore miles of habitat intersecting with Indian lands.

ESU and Occupied Miles (Occupied stream miles / occupied nearshore miles)	Stream miles overlapping with Indian lands *Conservation Value*			Indian lands overlap as % of total stream miles occupied	Nearshore miles (all high) overlapping with Indian lands	Indian lands overlap as % of total nearshore miles occupied
	High	Med	Low			
1. Puget Sound Chinook Salmon (2,216 / 2,376)	46		<1	2%	146	6%
2. Hood Canal Summer-run Chum Salmon (88 / 402)		4		5%	9	2%
3. Ozette Lake Sockeye Salmon (44 / na)	<1			2%		
4. Upper Columbia River Steelhead (1,332 / na)	43	2	9	4%		
5. Snake River Steelhead (8,225 / na)	27	12		<1%		
6. Middle Columbia River Steelhead (6,529 / na)	535	63	1	9%		
7. Upper Willamette River Steelhead (1,830 / 0)	9		2	<1%		

The activities occurring in these areas that would be likely to undergo a section 7 consultation include several transportation projects, of permits for instream work, minor NPDES permits, and dredging. In the range of Puget Sound chinook there may be some federal activity associated with a non-hydropower dam and a major NPDES permit. In the range of mid-Columbia steelhead there may be some federal activity associated with hydropower dams. There are also likely to be a very few actions associated with mining, utilities and development. Table 3 shows an estimate of the federal activities likely to occur within the range of each ESU.

Table 3. Number and type of federal activities likely to occur on Indian lands within critical habitat of each ESU.

ESU	Mining	Utility	Dredging	Instream Activities	Development	National Pollutant Discharge Elimination System	Transportation	Non-Hydro Dams	Hydro Dams
1. Puget Sound Chinook Salmon			4	56	1	30	10	1	
2. Hood Canal Summer-run Chum Salmon				1					
3. Ozette Lake Sockeye Salmon									
4. Upper Columbia River Steelhead	1		1	15		1			
5. Snake River Steelhead				4			1		
6. Middle Columbia River Steelhead	1		1		1	5	10	1	2
7. Upper Willamette River Steelhead		1				1			

Benefits of Exclusion

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.

  - **Makah Tribe** and NOAA Fisheries agreed on a long-term management plan involving the artificial propagation of threatened Ozette Lake Sockeye Salmon in 2003.

- ***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 federal operating and regulatory agencies, states, Columbia River Indian Tribes, 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.

- ***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.

- **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.

- NOAA Fisheries has stated that the subbasin plans will be used as the foundation for its recovery planning tasks. To that end, NOAA Fisheries has provided interim targets for listed salmon populations to subbasin planning groups and has stated that its intention to adopt subbasin plans as local recovery plans.

- ***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.

  - **Technical Recovery Teams** are responsible for establishing biology-based ESA recovery goals for listed species. The TRTs serve as science advisors to recovery planners.

Exclusion Furthers Federal Policies Promoting Tribal Sovereignty and Self-Governance
In the current designation effort, we have contacted all potentially affected tribes by letters to the Tribal Chairs (with copies to the identified key tribal staff) and electronic mail to key tribal staff. Additionally, a number of meetings and workshops were held with tribes and intertribal organizations. 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.

Balancing Benefits of Exclusion against Benefits of Designation

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. Depending on the ESU, the habitat ranges from X to XX stream miles and from X to XX nearshore 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. For all but one ESU, the areas involved represent less than 5 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:

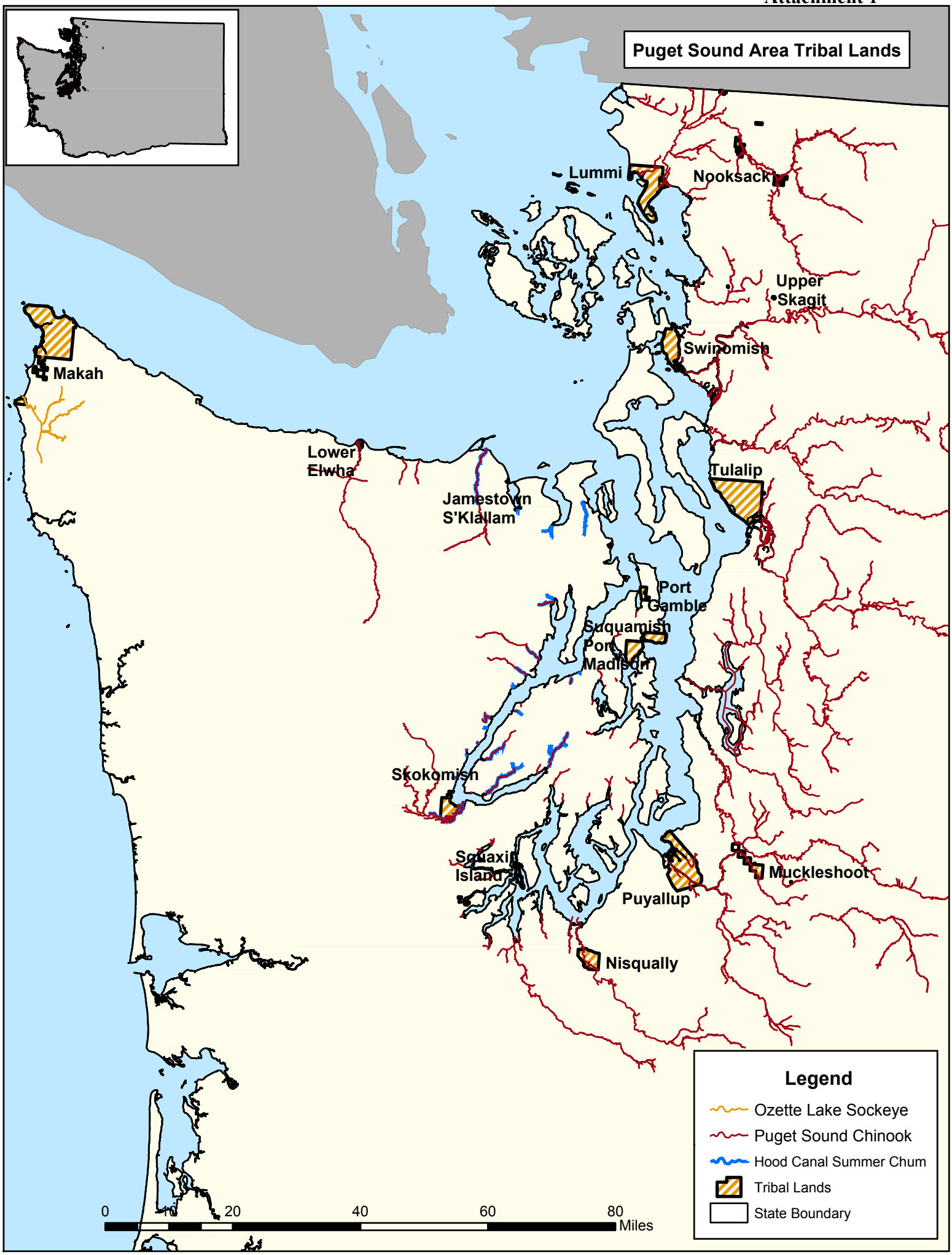
- The Secretarial Order states that Indian lands will not be designated as critical habitat unless they are essential for conservation, i.e., after the Secretary determines that the designation of all other non-Indian land is insufficient to conserve the species.
- The exclusion is consistent with the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

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 all of the listed ESUs 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.

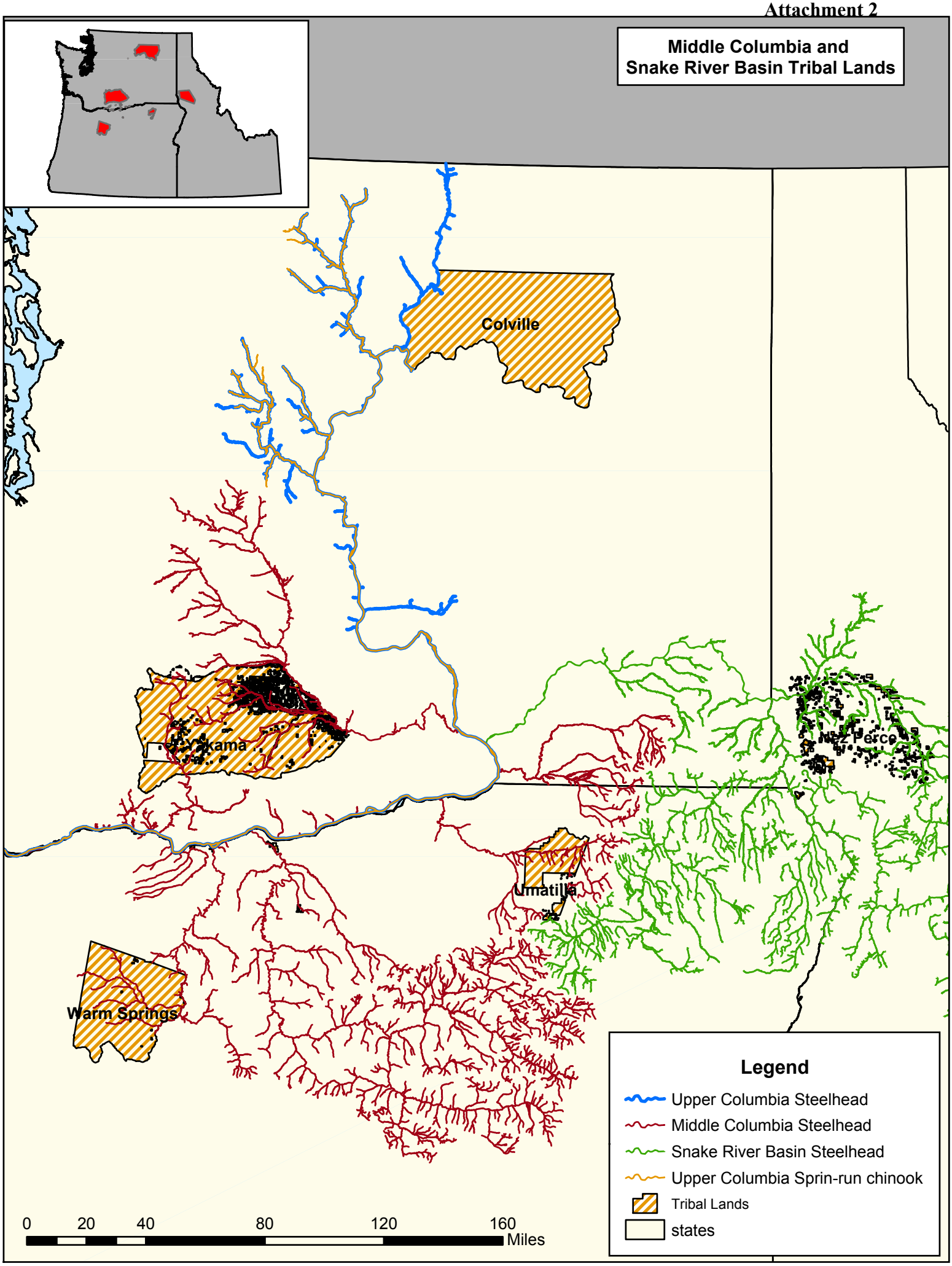
Further analysis is necessary to determine whether excluding these lands will result in extinction of any of the ESUs, after taking into consideration the conservation needs of the ESUs and any other potential exclusions being considered for military areas.

Map Attachments (3)

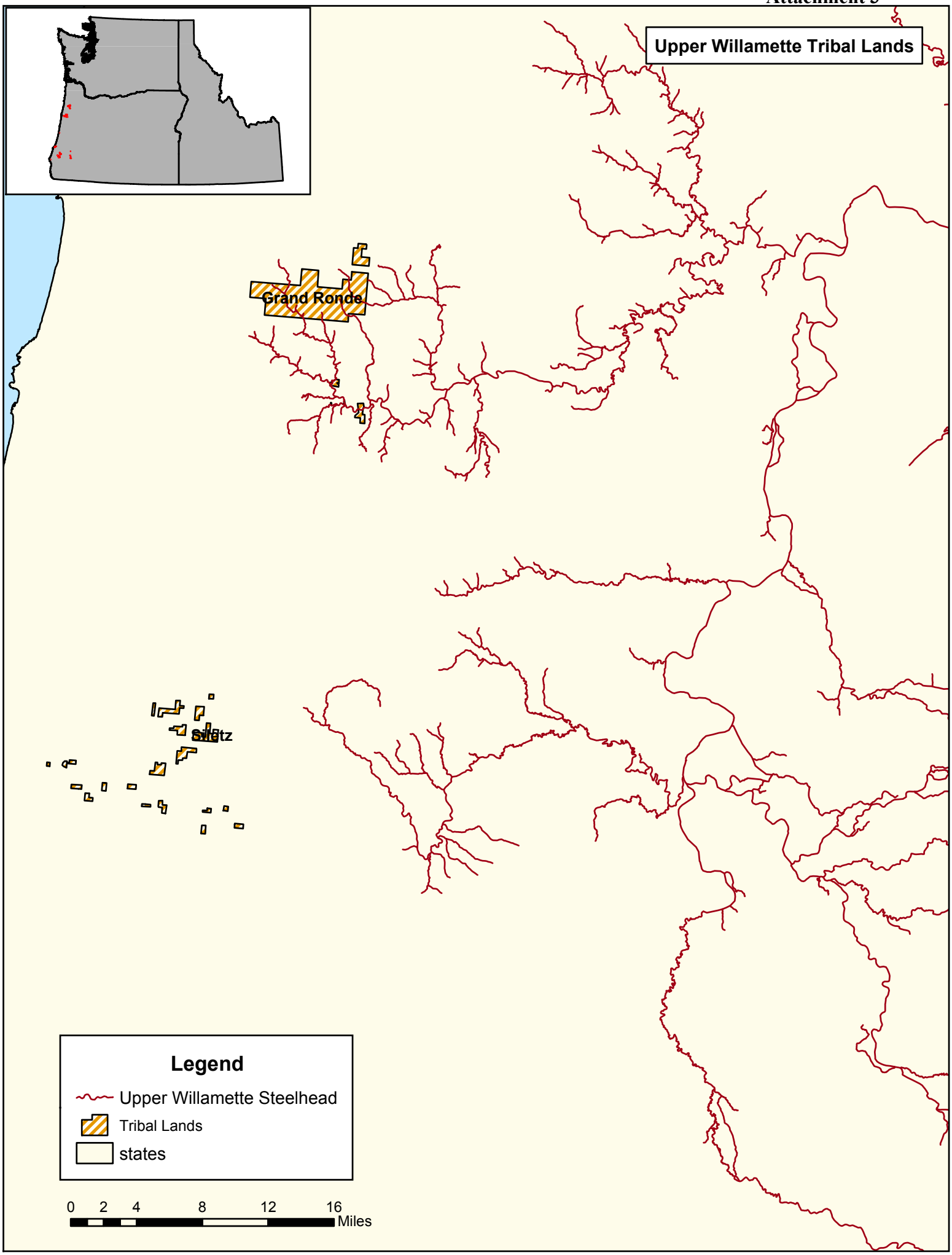
Attachment 1



Attachment 2



Attachment 3



MEMO August 10, 2005

To: PRD File

From: Donna Darm, Assistant Regional Administrator, PRD

cc: Kirsten Erickson, NOAA General Counsel, NW
Mike Crouse, Assistant Regional Administrator, HCD

Subject: Critical Habitat Designation for Evolutionarily Significant Units (ESU) of West Coast Salmon and Steelhead – Analysis of the Benefits of Designation versus the Benefits of Exclusion of Areas Covered by Habitat Conservation Plans

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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 December 14, 2004 we published a proposed critical habitat designation with exclusions based on impacts on the economy, impacts on national security, and impacts on tribal governments (69 Fed. Reg. 74572). The proposed rule also noted we were considering additional exclusions, among them areas covered by habitat conservation plans (HCP). Although the proposed rule did not provide a detailed analysis of the benefits of designation or exclusion, it cited a supporting document that identified and mapped the HCPs then in place in the Northwest region. Table 1 lists the HCPs identified in the supporting document. The Federal Register Notice requested "[i]nformation regarding the benefits of excluding lands covered by Habitat Conservation Plans . . . , including the regulatory burden designation may impose on landowners and the likelihood that exclusion of areas covered by existing plans will serve as an incentive for other landowners to develop plans covering their lands."

Table 1: HCPs in the Northwest Region in place at the time of the proposed designation with critical habitat potentially present.

HCP	Type	1000s of Acres
Seattle: Cedar River	Water and riparian habitat management	90
Tacoma: Green R.	Water management	14
Plum Cr: Central Cascades	Timber	150
Green Diamond (Simpson)	Timber	262
West Fork (Murray)	Timber	49
DNR State Lands	Timber	1,400
Mid-C dams (3)	Passage dam operation	NA
Storedahl Gravel	Gravel mining	<1
Tagshinny Tree Farm	Timber	<1

The proposed rule also stated that we were considering excluding private commercial timber land in Washington State covered by state forest practices rules. These lands are the subject of a pending HCP between our agency and the Washington Department of Natural Resources. When completed, the HCP will cover over 8 million acres, much of which contain critical habitat for salmon and steelhead. In this analysis, we have not considered pending HCPs for exclusion because we do not want to prejudge the outcome of the HCP process. Once this HCP is completed and in force, we will complete an analysis of the benefits of designation versus the benefits of exclusion for landowners covered by the agreement who seek an exclusion.

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. 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 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 s2807, 2831)).

To receive a permit under Section 10, a landowner must develop a habitat conservation plan (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). In this Final Rule, we elaborated on our understanding of congressional intent and on our view of the value of the HCP program generally:

> 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 a clearer policy regarding the assurances provided to landowners entering into an HCP was needed. 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 (Feb. 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.

<u>Impacts of designation</u>

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.[1]

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 (cite economics report).

Benefits of designation versus exclusion generally

Landowners often are opposed to a critical habitat designation on their land. We received numerous comments on the benefits of designation or exclusion of lands covered by HCPs generally. Several commenters asserted 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.[2] 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.

We also received comments on the benefits of designation or exclusion of particular areas covered by current HCPs. Most of the comments on particular areas came from entities with HCPs currently in place or pending completion. Of those, the City of Seattle noted 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." This HCP partner "therefore welcome[d] the designation."

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[1] In its comments on the proposed rule, one current HCP partner, Hancock Forest Management, acknowledged that such activities might occur and cited examples of activities potentially taken by landowners: "rights-of-way or easements across federal lands to access private lands, a U.S. Army Corps of Engineers 404 permit under the Clean Water Act to build in-water structures, a National Pollution Discharge Elimination System Permit under the Clean Water Act for a forestry-related point source, to exchange lands with a federal agency, an incidental take permit under section 10(a)(1)B) of the ESA, or federal funding to implement land management practices."

[2] These commenters included the Hancock Forest Management (which has an HCP, but not within critical habitat); the Washington Forest Protection Association (representing private commercial timberland owners in Washington State); biologists with Plum Creek Timber and Chelan Public Utility District (two entities with HCPs); the Association of Washington Businesses; and the National Association of Homebuilders.

In contrast, the comments of three landowners with current HCPs provided evidence that exclusion is likely to enhance our relationship with these landowners, which in turn will promote our ability to work effectively together to implement the HCP. These three landowners also expressed the view that exclusion from critical habitat on their lands would encourage other landowners to seek conservation agreements such as HCPs with us. They believed that benefits of exclusion are 1) avoiding damage to, and even enhancing, a relationship that benefits the listed species and 2) encouraging similar relationships with other landowners (Attachments 2-4). The Washington Department of Natural Resources comments applied both to its current HCP covering state lands and its pending application for an HCP that covers all non-federal commercial timber land in Washington State.

These entities also commented that designation of critical habitat would impose an unnecessary regulatory burden on the covered lands. Green Diamond Resources Company felt that exclusion would give the Company greater economic and regulatory certainty regarding their ESA liability. West Fork Timber Company believed that critical habitat designation would be duplicative with protections under their existing HCP and a disincentive for nearby forest landowners to pursue HCPs. Washington Department of Natural Resources did not directly cite regulatory burdens the State would experience as a result of designation, but noted "additional regulatory actions by the Federal government would erode the cooperative nature with landowners who have already voluntarily entered into a HCP."

Based on this information, we concluded that some landowners with current HCPs view exclusion has 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 could not 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, Green Diamond Resources Company, and West Fork Timber Company. 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 three landowners.

Balancing Benefits of Designation against Benefits of Exclusion

In analyzing the benefits of designating these HCP-covered areas, we must consider 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 must also consider 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 must consider the value of the HCP for species conservation and the importance of its ongoing implementation. We must also consider the extent to which the landowner views exclusion as enhancing our ongoing partnership. An additional benefit of exclusion may be that the landowner or a federal agency will avoid economic costs that would result if a planned activity must be altered to avoid adverse modification of the affected habitat. Our analysis revealed only minor economic impacts from changes in federal activities based on section 7 consultations on these three HCP-covered lands. We therefore considered the economic benefits of exclusion to be slight.

Throughout our analysis in developing recommendations for critical habitat designation, we have examined the "coextensive" impact of critical habitat designation, that is, "the entire impact of applying the adverse modification provision of section 7, regardless of whether the jeopardy provision alone would result in the identical impact" (69 Fed. Reg. at 74625). We adopted this approach after examining our extensive consultation record and concluding we could not discern a difference between applying the "jeopardy" and "adverse modification" provisions of section 7. In keeping with our analysis throughout the section 4(b)(2) process, if we identify coextensive economic benefits of exclusion in this analysis, we will note they are to be balanced against a corresponding coextensive benefit of designation (that is, the benefit of applying the adverse modification prohibition, as if the jeopardy provision were not available).

Green Diamond Resources Co.

The Green Diamond HCP covers forestry activities on 262,000 acres of land containing approximately 20 total stream miles of Puget Sound Chinook 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 15 stream miles in the Skokomish watershed rated as having a high conservation value, and 5 stream miles in the Kennedy-Goldsboro watershed rated as having a low conservation value. Our analysis predicted there were not likely to be any 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 lead us to expect several, but not more than 10, 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 Co. 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, 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 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
- 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 all of the listed ESUs 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 any of the ESUs, after taking into consideration the conservation needs of the ESUs and any other potential exclusions being considered for military areas.

West Fork Timber Co.

The West Fork Timber HCP covers forestry activities on 49,000 acres of land containing less than one stream mile of lower Columbia River Chinook habitat in one watershed and approximately 15 miles of lower Columbia River steelhead 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 first 5 years of 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 15 stream miles occupied by lower Columbia steelhead and less than one mile occupied by lower Columbia River Chinook salmon. The Cowlitz Valley Frontal watershed was rated as having a high conservation value and HCP lands overlap with less than one stream mile occupied by lower Columbia steelhead (and none for Chinook). Our analysis predicted there were not likely to be any 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 salmon (as described above) and its ongoing successful implementation will provide benefits to fish conservation. Based on information received during the public comment period, 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 section 7 consultation
- Our analysis shows no 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.

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

Washington Department of Natural Resources

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 129 stream miles occupied by the following listed ESUs: Puget Sound Chinook, Hood Canal summer-run chum, Ozette Lake sockeye, Columbia chum, Lower Columbia Chinook, steelhead and coho. 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. Table 2 shows the habitat that would be affected by a designation on HCP lands (note that some HCP lands overlap with multiple ESUs) and Table 3 shows the types of federal activities in that area likely to undergo section 7 consultation.

Table 2: Number of stream miles and nearshore miles of habitat intersecting with Washington Department of Natural Resources lands.

ESU and Occupied Miles (Occupied stream miles)	Stream miles overlapping with HCP lands *Conservation Value* High	Med	Low	HCP lands overlap as % of total stream miles occupied
1. Puget Sound Chinook Salmon (2,216)	55	23		3.5%
2. Lower Columbia River Chinook Salmon (1,655)	87	75		10%
3. Hood Canal Summer-run Chum Salmon (88)	4	1		6%
4. Columbia River Chum Salmon (715)	4			<1%
5. Ozette Lake Sockeye Salmon (40)	2			5%
6. Lower Columbia River Steelhead (2,673)	83	26		4%

Table 3. Number and type of federal activities likely to occur on HCP lands within critical habitat of each ESU.

ESU	Mining	Utility	Dredging	Instream Activities	Development	National Pollutant Discharge Elimination System	Transportation	Non-Hydro Dams	Hydro Dams
1. Puget Sound Chinook Salmon			2	15	2	21	4		
2. Lower Columbia River Chinook Salmon				5					
3. Hood Canal Summer-run Chum Salmon									
4. Columbia River Chum Salmon				5					
5. Ozette Lake Sockeye Salmon									
6. Lower Columbia River Steelhead				5					

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 salmon (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, 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 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.

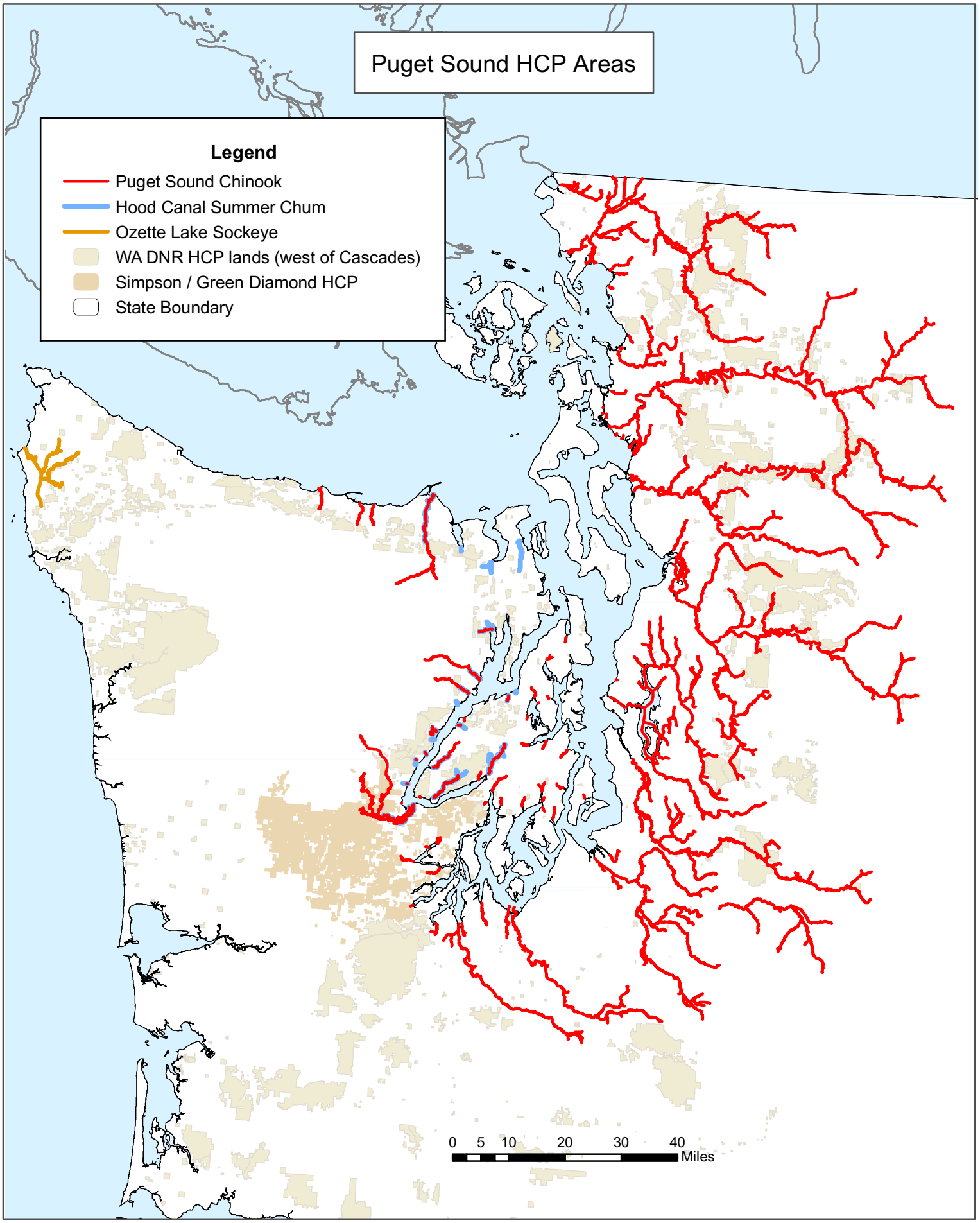
Based on the foregoing analysis, I conclude that the benefits of excluding the stream miles within the boundaries of the Washington Department of Natural Resources HCP outweigh the benefits of designating those lands because:

- 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
- There are very few federal activities predicted to occur in these areas that are likely to undergo section 7 consultation (five or fewer per year, with the exception of Puget Sound Chinook salmon)
- 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 all of the listed ESUs 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.

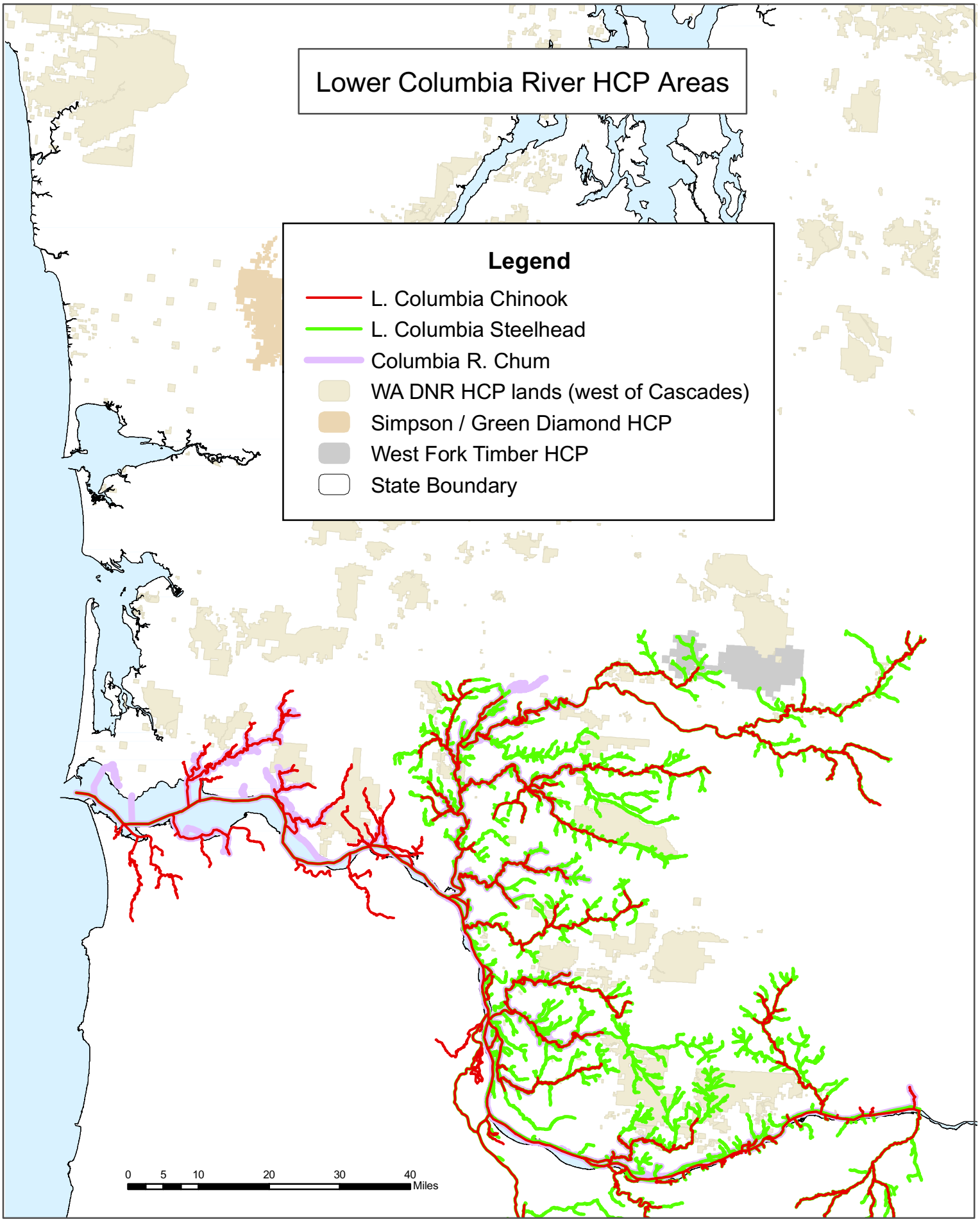
Further analysis is necessary to determine whether excluding these lands will result in extinction of any of the ESUs, after taking into consideration the conservation needs of the ESUs and any other potential exclusions being considered for military areas.

Attachments:
(1a&b) Maps showing overlap of salmon and steelhead habitat areas with HCP lands of Washington Department of Natural Resources, Green Diamond Timber Company, and West Fork Timber Company
(2) Comments of Washington Department of Natural Resources
(3) Comments of Green Diamond Timber Company
(4) Comments of West Fork Timber Company

Attachment 1a



Attachment 1b



Attachment 2

WASHINGTON STATE DEPARTMENT OF
Natural Resources

DOUG SUTHERLAND
Commissioner of Public Lands

March 4, 2005

DEPARTMENT OF COMMERCE
RECEIVED
MAR 14 2005

Chief
Protected Resources Division
NOAA Fisheries
525 NE Oregon Street, Suite 500
Portland, OR, 97232–2737

Docket No. 030716175–4327–03; I.D. No. 070303A
RIN No. 0648–AQ77

Dear Sir or Madam:

Thank you for the opportunity to comment on the National Oceanic Atmospheric Administration (NOAA) Fisheries' proposed rules for Endangered and Threatened Species Designation of Critical Habitat for 13 Evolutionarily Significant Units (ESUs) of Pacific Salmon (*Oncorhynchus* spp.) and Steelhead (*O. mykiss*) in Washington, Oregon, and Idaho as presented in the Federal Register, I.D. No. 070303A.

Pursuant to the NOAA Fisheries' request for comment, the Washington Department of Natural Resources (WDNR) requests an exclusion from critical habitat designation for lands covered by existing Habitat Conservation Plans (HCPs).

As stated in the proposed rule, Section 3 of the Endangered Species Act (ESA) defines critical habitat as those habitats *"(5)(A)(i) ...within the geographical area occupied by the species,... 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;... ."* Existing management protections currently in place on forestlands covered under the WDNR State Lands HCP exceed the level of protection that would occur under critical habitat designations, making "additional special management considerations or protection" for salmonid habitat unnecessary. The proposed rule also states *"... in recent years the Federal government and many non-federal landowners have adopted many changes in land and water management practices that are contributing significantly to protecting and restoring habitat for listed species... the need for designating such areas as critical habitat is diminished correspondingly."* WDNR strongly concurs with this statement, and submits that HCPs are likely the best form of voluntary special management consideration or protection for listed species on non-federal lands. NOAA would not likely secure additional conservation benefit for listed species by designating critical habitat on HCP lands. In fact, designating critical habitat on HCP lands - which have already undergone extensive environmental review and section 7 consultation - could have the unintended consequence of damaging cooperative relationships that have been established with landowners who have already entered into an HCP or who may be considering doing so.

WDNR's request is consistent with the findings of the Department of the Interior's U. S. Fish and Wildlife Service (USFWS) for Designation of Critical Habitat for the Klamath River and Columbia River Populations of Bull Trout (50 CFR Part 17 in Federal Register Vol. 69, No 193). In the case of bull trout in the Klamath and Columbia Rivers, the USFWS excluded critical habitat designations for lands covered by an existing HCP *"...providing that HCP specifically and adequately covers species for which critical habitat has been designated."* The USFWS determined they *"...anticipate little additional regulatory benefits from including these areas in critical habitat beyond what is already provided by the existing section 7 nexus..."*

WDNR's enclosed comments describe the benefits of existing HCPs, in particular the WDNR State Lands HCP, which is currently the largest HCP in the state. As is the case for most federally approved HCPs, the section 7 consultation process for the State Lands HCP was much more extensive than the section 7 consultation process resulting from critical habitat designation. Additionally, the WDNR State Lands HCP includes voluntary restoration efforts in the form of a Riparian Forest Restoration Strategy, which would not be required under a critical habitat designation.

As you may know, the Services have released for public comment a draft HCP and draft environmental impact statement (EIS) covering the Washington Forest Practices Regulatory Program. The EIS has been prepared by the Services, which analyzes the environmental effects of the draft Forest Practices HCP. The Aquatic Resources Division of WDNR has also begun development of an HCP for activities on state-owned aquatic lands as well as management of the wild geoduck fishery and state-owned geoduck habitat. We would expect that lands covered under future approved HCPs would also be excluded from critical habitat designation upon receipt of incidental take permits (ITPs) and executed Implementation Agreements (IAs). Enclosed, please find WDNR's detailed comments specific to this request for exclusion.

As described further in the enclosed comments, the benefits of excluding HCP lands from critical habitat designations far exceed the benefits of including these lands. Therefore, WDNR requests that NOAA Fisheries exclude these areas from final critical habitat designations.

Thank you again for the opportunity to comment on the proposed rule.

Sincerely,

Doug Sutherland
Commissioner of Public Lands

Enclosure

C: Pat McElroy, Executive Director of Regulatory Programs
Fran McNair, Aquatics Steward
Bruce Mackey, Lands Steward

WDNR Enclosure – Detailed Comments
The following comments provide details pertaining to WDNR's letter dated March 14, 2005 regarding Docket No. 030716175–4327–03; I.D. No. 070303A. The benefits of excluding HCP lands from critical habitat designations far exceed the benefits of including these lands. Therefore, WDNR requests that NOAA Fisheries exclude these areas from final critical habitat designations. WDNR's justification for this request is outlined below.

Benefits of Excluding Lands Covered by Habitat Conservation Plans
Section 10(a)(1)(B) of the Endangered Species Act (ESA) authorizes NOAA Fisheries to issue non-Federal entities a permit 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 may result in the incidental taking of a listed species. 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 survival and recovery of the species. However, as an added benefit of HCPs, many landowners voluntarily contribute to habitat restoration efforts, which is not required under the ESA. Therefore, for lands covered by federally approved HCPs, existing management protections are sufficient to conserve both threatened and endangered species. Thus special management considerations or protection in the form of critical habitat designations are not required to preserve physical or biological features essential to the conservation of the species in these areas.

Within Washington State, there are currently eight approved Habitat Conservation Plans covering aquatic species, including the WDNR State Lands HCP. There are also several HCPs in development, including the Forest Practices HCP, which cover, among others, salmonid species. Through ESA Section 10(a)(1)(B), HCP covered lands are evaluated to determine whether the HCP (1) provides a conservation benefit to the species; (2) provides assurances that the management plans will be implemented; and (3) provides assurances the plans will be effective. Approved and permitted HCPs are designed to ensure the long-term survival of covered species within the plan area. Where there is an approved HCP, any area that would otherwise be proposed for critical habitat designation for the covered species would normally be protected through the terms of the HCP and the accompanying implementation agreements (IAs).

Further, as stated by the USFWS in their rule for critical habitat for bull trout, additional regulatory actions by the Federal government would erode the cooperative nature with landowners who have already voluntarily entered into a HCP. The USFWS stated that critical habitat designations *"... could impact the trust and spirit of cooperation that has been established over the last several years"* with the State of Washington and private landowners to where *"... Federal regulation through designation of critical habitat would be viewed as an unwarranted and unwanted intrusion."* WDNR agrees with the determinations made by the USFWS and requests NOAA Fisheries consider these circumstances when designating critical habitat for 13 ESUs of Pacific Salmon and Steelhead.

WDNR State Lands HCP

WDNR State Lands has a multi-species HCP, which is one of the most comprehensive in the nation. It is currently the largest approved HCP in Washington State covering approximately 1.6 million acres of state trust land, or all WDNR-managed forestlands within the range of the northern spotted owl. This includes approximately 7 percent of all forestland in Washington, including all state forestland west of the Cascade Range, as well as some state forestlands on the eastern slopes of the Cascade Range. Aquatic species are not covered under the WDNR State Lands HCP on approximately 228,000 acres of state land on the east side of the Cascade Crest. Forest management activities on WDNR lands in eastern Washington follow the current Forests Practices Act and rules as they pertain to aquatic resources protection.

The WDNR State Lands HCP is the culmination of lengthy and in depth negotiations with the Services. During the HCP process, an Environmental Impact Statement (EIS) was completed which provided detailed analysis of the potential environmental effects of the HCP, including the effects on listed species. A Biological Opinion (BO) was completed by the Services in 1997, which provided additional analysis of the effects of the HCP on listed species. The USFWS amended the original BO in 1999 to include an incidental take statement for Columbia River Basin bull trout. NOAA Fisheries also amended the BO in 1999 to include incidental take statements for Lower Columbia River steelhead, Lower Columbia River and Puget Sound Chinook, Hood Canal summer run and Columbia River chum and Ozette Lake sockeye. Both Services determined that if management activities were conducted as described in the WDNR State Lands HCP, and in compliance with the IA, expected incidental take would be adequately minimized and mitigated. Further, the Services found that implementing the HCP would not appreciably reduce the likelihood of survival or recovery of the listed Distinct Population Segments (DPSs) or Evolutionary Significant Units (ESUs).

The activities covered under the WDNR State Lands HCP include, but are not limited to, forest practices, forest product sales, sale and harvest of other valuable materials, licenses, permits, leases, rights-of-way, and public use. Per the IA, WDNR has incorporated all relevant commitments of the HCP into timber and non-timber resource activities executed on or after January 1, 1999. These management activities, as well as the minimization and mitigation strategies of the HCP, were analyzed in the EIS and the subsequent BO. Therefore, all WDNR authorized management activities occurring on state forestland that could affect listed species or their habitat have been considered and analyzed through the HCP process.

Other activities occurring on state forestlands, having a federal nexus and which could potentially affect listed species or their habitats are rare, and would undergo a section 7 consultation regardless of designated critical habitat. These activities would not be associated with the State Lands HCP, rather may be associated with land in holdings managed by the Federal or tribal governments or private owners.

Given that the section 7 consultation on the State Lands HCP activities was much more extensive than section 7 consultation that would result of designating critical habitat, NOAA Fisheries

should exclude lands covered under the WDNR State Lands HCP from designation. While the benefits of exclusion outweigh the benefits of inclusion primarily from a non-economic standpoint - the opportunity to streamline regulatory compliance and confirm regulatory assurances for HCP participants; the continued ability to seek new partnerships and implement more protective conservation for nonfederal actions that may not be accomplished otherwise; and setting the stage for more collaborative conservation actions in the future, - these benefits are nonetheless very important to HCP participants and should be to NOAA Fisheries as well.

The second criterion for designating critical habitat - specific areas that may require special management consideration or protection - is addressed by the fact that the approved HCP is in place. NOAA Fisheries would not be able to secure nearly as effective conservation actions, or special management protection, through section 7 consultations alone and should acknowledge the important contribution the WDNR State Lands HCP makes to species conservation. It is inconsistent for NOAA Fisheries to approve an HCP and then follow with a critical habitat designation for the same area.

The WDNR State Lands HCP also includes a Riparian Forest Restoration Strategy component. The main objective of this strategy is to restore riparian management zone function. Restoration work will be done primarily through thinning to reduce relative stand density and shorten the amount of time necessary for riparian forests to achieve full function. Hardwood conversions will also occur where alder stands will be replaced with conifers. These restoration efforts provide increased shade, large woody debris recruitment and ultimately restored habitat for salmonids, and go beyond what is required under the ESA or what could be achieved through critical habitat designation.

The development and implementation of HCPs provides important conservation benefits. Besides those listed above, other benefits include the development of biological information to guide conservation efforts and assist in species recovery, and the creation of innovative solutions to conserve species while also allowing for otherwise lawful activities.

Proposed Forest Practices HCP

In July 2001, the Washington Forest Practices Board adopted sweeping changes to the rules governing forest practices activities on over 9 million acres of forestlands in the state. The changes, directed by the state legislature as part of the Forests and Fish Law, originally appeared as recommendations in the 1999 Forests and Fish Report (FFR) and are commonly referred to as the "Forests and Fish Rules." The FFR reflected a multi-stakeholder effort to improve forest practices and the protection of aquatic and riparian habitat on forestlands regulated under the state's Forest Practices Act and rules. The authors of the FFR include Federal agencies (USFWS, NOAA Fisheries, and EPA), state agencies (Washington State Governor's Office, WDNR, Washington Department of Fish and Wildlife, and Washington Department of Ecology) Washington counties, forest landowners, and Indian tribes.

The FFR was developed in response to listings of several stocks of Pacific salmon under the ESA, as well as the continued listing of surface waters on the Federal Clean Water Act 303(d)

list. To address these issues, the FFR recommended modifying existing forest practices statutes and rules related to: the protection of riparian areas, unstable slopes, and wetlands; the construction, maintenance, and abandonment of forest roads; the application of forest chemicals; and the implementation of watershed analysis. The report also recommended creating and implementing a collaborative, multi-million dollar adaptive management program. The Forests and Fish Emergency Rules went into effect in April 2000, and permanent rules became effective in July 2001. The revised Forest Practices rules apply to forestlands so long as harvested land will be replanted and remain in forestry.

The Forest Practices rules include riparian management zones (RMZs) on fish-bearing streams designed to recruit the majority of large wood, which potentially could be recruited from these riparian areas. Because recruitment of large wood requires buffer widths greater than that needed to address many other riparian functions, these buffers also address the riparian functions of bank stability, shade, nutrient input, and sediment filtering. Riparian buffers on fish-bearing streams likely account for half of the wood delivered to such streams. The remainder of large wood in these streams depends on episodic and catastrophic events for transport from upstream and upslope areas. Riparian buffers for perennial streams above fish-bearing streams include a buffer at the confluence with fish-bearing streams and additional buffers covering at least 50 percent of the perennial non-fish bearing stream length. Buffers on perennial non-fish-bearing streams protect sensitive reaches and sites, such as headwall and side-slope seeps, and are designed to maintain stream temperatures required by listed salmonid species. The Forest Practices rules also include a strategy for maintaining cooler water temperatures - the bull trout temperature overlay - in streams located in the hotter, dryer portions of Washington east of the Cascade crest.[1]

Slope stability and the ability to harvest timber and construct roads on unstable slopes are also addressed through the Forest Practices rules. The rules identify specific types of landforms that may be susceptible to mass wasting. Forest practices applications in these areas are designated as Class IV Special and are subject to State Environmental Policy Act (SEPA) review. Applicants must submit a SEPA Checklist along with the Forest Practices Application. In the case of unstable landforms, the checklist contains a detailed listing of potential environmental impacts associated with the proposed activity. After reviewing the proposal, consulting with other affected agencies and tribes, and considering comments received from other interested parties through the SEPA review process, DNR issues a decision under the SEPA commonly known as a "threshold determination." If DNR determines the proposed activities are likely to have a probable significant adverse impact, a "determination of significance" is issued and the applicant must prepare an EIS in accordance with SEPA requirements. If DNR determines the adverse impacts identified in the EIS are significant and reasonable measures are insufficient to mitigate the impacts, the forest practices application is denied. If DNR determines the proposed activities are not likely to have a probable significant adverse impact, a "determination of non-

[1] The WDNR has developed a draft HCP that is currently out for public comment, which covers the Washington Forest Practices Program and rules. The USFWS and NOAA Fisheries have prepared a Draft Environmental Impact Statement discussing potential environmental impacts of the HCP. The Draft EIS is also currently out for public comment.

significance" is issued and the forest practices application is approved. In many cases, DNR's approval of a forest practices application contains "conditions" or additional requirements with which the applicant must comply. The conditions usually include protection measures that must be implemented to mitigate impacts associated with the proposal.

Road construction and maintenance is also a large part of unstable slopes regulation, requiring corrective measures to address existing problems and specific standards for new road construction. The Forest Practices rules specify nine goals for existing and new forest roads to provide for fish passage, avoid degradation of water quality and riparian habitat, prevent mass wasting, and minimize the delivery of sediment and surface runoff to all waters bodies. To address these goals, the Forest Practices rules require large forest landowners to prepare road maintenance and abandonment plans that are specifically intended to repair and/or maintain fish passage, reduce sediment-laden road drainage, reduce potential mass wasting of roads, and improve hydrologic continuity. Large forest landowners are required to submit their plans by December 2005 and upgrades to their road networks consistent with these plans must be completed by 2016. Small forest landowners[2] are also responsible for road maintenance and must submit road maintenance and abandonment checklists for each forest practices application.

The Forest Practices rules apply to all forestlands regulated by the Forest Practices Act and rules equally; critical habitat features, or PCEs, do not have to exist in order for protections to be in place. All streams identified as salmon bearing are offered the same protections, regardless of the presence of salmon or PCEs at the time of the management activity. Harvest and management restrictions along salmon bearing streams, even those streams without currently existing PCEs, allow forest stands in these areas to mature over time, potentially allowing them to reach a more fully functional stage. In this way, the Forest Practices rules offer protection of existing habitat features, and ultimately restore more functional habitat over time.

The permanent Forest Practices rules consistent with the FFR have been faithfully implemented since July 2001, and are monitored by the WDNR to ensure compliance by landowners and operators. Additionally, a cooperative adaptive management program was created to engage in research and monitoring to provide science-based recommendations to assist the Forest Practices Board in determining if and when it is necessary or advisable to adjust rules and guidance for protection of aquatic resources. NOAA Fisheries staff participates in the adaptive management program through the Cooperative Monitoring Evaluation and Research Committee and through the Forests and Fish Policy Committee. NOAA Fisheries staff provides technical and policy input by assisting in prioritizing research and monitoring projects, developing scientifically sound approaches to carrying out research and monitoring, interpreting findings, and formulating recommendations that are forwarded to the Forest Practices Board for consideration.

Currently, WDNR is applying to the Services for incidental take permits for the Forest Practices Program and rules. NOAA Fisheries has developed a draft Environmental Impact Statement

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[2] For purposes of completing road maintenance and abandonment plans, small forest landowners are defined in WAC 222-24-051 as landowners with less than 500 acres of forest land in any given WDNR region.

(EIS) under NEPA for the proposed Forest Practices HCP, which analyzes environmental effects by considering the impacts to not only fish and wildlife, but also on non-wildlife resources such as water quality, air quality, and cultural resources. NOAA Fisheries will also draft a Biological Opinion (BO), as the Services did for the WDNR State Lands HCP, for the proposed action of issuing an incidental take permit. The BO will provide additional environmental effects analysis regarding implementation of the proposed Forest Practices HCP.

Summary

In summary, WDNR requests an exclusion from critical habitat designation for approved HCPS, specifically the Washington forestlands covered by the State Lands HCP. Stringent management efforts on behalf of the State of Washington offer suitable protection of salmonids and salmonid habitats making special management considerations or protection from federal law unnecessary. The State Lands HCP has already undergone extensive environmental review and section 7 consultation. As described above, the benefits of excluding these lands from critical habitat designation far outweigh the benefits of inclusion.

In addition, we request NOAA exclude from critical habitat designation, any lands or activities falling under coverage of future HCPs that may be implemented by WDNR. This exclusion would obviously take affect upon receipt of ITPs and a signed IA. We hope NOAA will seriously consider the many benefits of excluding HCP lands from critical habitat designation and honor our request.

Attachment 3

GREEN DIAMOND RESOURCE COMPANY

1301 Fifth Avenue
Suite 2700

Seattle, Washington
98101-2613

T (206) 224-5800
F (206) 224-5809
greendiamond.com

DEPARTMENT OF COMMERCE
RECEIVED
MAR 9 2005
F/NW03
NATIONAL MARINE FISHERIES SERVICE

March 3, 2005

Chief, NMFS, Protected Resources Division
525 NE Oregon Street, Suite 500
Portland, OR 97232-2737

Re: Docket Number 030716175-4327-03 and RIN number 0648-AQ77
Comments on Proposed Critical Habitat Designations for 13 Evolutionary Significant Units (ESUs) of Pacific Salmon and Steelhead in Washington, Oregon, and Idaho.

Dear Chief:

The Green Diamond Resource Company (GDRCo) appreciates the opportunity to comment on the proposed critical habitat designations for 13 Evolutionary Significant Units (ESUs) of Pacific salmon and steelhead in Washington, Oregon, and Idaho. GDRCo is a family-owned company with a 115 year history of timberland ownership. The fifth generation of family members is now providing the leadership for the careful stewardship of the company's 870,000 plus acres of highly productive timberland that are located along the coastal regions of Washington, Oregon and California.

The company has a long history of protecting wildlife, water quality and aquatic resources on its forested lands. Green Diamond Resource Company was the first private company to develop a Habitat Conservation Plan (HCP) for the Northern Spotted Owl. The HCP was approved by the U.S. Fish and Wildlife Service (USFWS) in September of 1992, and covers over 450,000 acres of the company's ownership in northern California. More recently, the company signed a Habitat Conservation Plan (HCP) in October of 2000 that provides protection for water quality and listed and unlisted fish, aquatic, and wildlife species. The HCP covers approximately 262,000 acres of the company's ownership in Washington State. GDRCo is also actively seeking federal approval from the USFWS and NOAA Fisheries on an aquatic HCP for the company's timberlands in California.

Because of GDRCo's extensive experience in habitat management under the Endangered Species Act, we have followed closely the evolution of the Act and its implementing regulations. We recognize that the proposed critical habitat designations currently under review are the result of tremendous effort by NOAA Fisheries to correct past deficiencies in critical habitat that were identified in litigation and resolved by NOAA Fisheries' agreement to remand and reformulate the designations. It is our overall impression that NOAA Fisheries' new approach to critical habitat designation greatly improves on previous regulations by using more rigorous biological and economic methods, and by maintaining fidelity to the language and intent of the ESA.

Designation of Areas Essential for Conservation of the Species.

We applaud NOAA Fisheries for focusing the proposed designation on only those areas that are essential for the conservation of listed species and in need of special management. We note that the proposed designations have appropriately emphasized the identification of occupied habitat and the presence of primary constituent elements of habitat in those areas. We further note that NOAA Fisheries has greatly

improved its precision in defining designated areas by mapping stream reaches proposed for designation. Rather than simply describing critical habitat as accessible areas within entire river basins, the proposed designation now allows regulated interests and federal agencies to understand where critical habitat is located.

NOAA Fisheries has also appropriately eliminated prior ambiguity where riparian areas of unspecified dimensions were once designated. The use of the ordinary high water line and bank-width boundaries on rivers and streams will greatly improve the efficiency and effectiveness of consultation on critical habitat effects.

Finally, we congratulate NOAA Fisheries biologists for assessing the relative conservation contributions of various basins and sub basins within each Evolutionarily Significant Unit (ESU). This approach is consistent with the reality that not all habitat is of equal significance and value in the conservation of a listed species. The effort to differentiate and prioritize habitat will be repaid by the ability to target conservation resources and habitat protection in areas where the species will benefit most.

Meaningful Use of the Exclusion Process.

In this proposed designation, NOAA Fisheries has also made tremendous improvements in its use of the exclusion process mandated by the ESA. NOAA Fisheries has broad discretion to weigh the benefits of designation against the benefits of withholding designation for certain areas, but the exercise of that discretion must be informed. The exclusion process is far more useful now that NOAA Fisheries has made a qualitative differentiation between habitat areas coupled with a quantitative assessment of economic impacts associated with added critical habitat protection. NOAA Fisheries is now able to approach the critical habitat designation process in a manner that achieves the biological and legal mandate, protection of habitat essential for the conservation of the species, but does so in a cost-effective manner. Rather than designate all habitat everywhere without regard for economic impact or cost, NOAA has attempted to protect the best habitat while avoiding inessential adverse economic impacts. In the final designation, we urge NOAA Fisheries to adopt the proposed exclusions of units 14 and 17 for Puget Sound Chinook, where habitat conservation priorities are low and economic impacts are high. We also urge NOAA Fisheries to exclude the entire Oregon Coastal Coho ESU from designation as the species is no longer listed as threatened and the proposed relisting of the species is unwarranted. We note that NOAA is considering such an exclusion because of the healthy status of the species. In fact, the Oregon Coastal Coho ESU is not at risk of extinction, and it will remain a viable species under current management and habitat protection without listing and critical habitat designation.

NOAA's focus on a balancing of biological benefits against economic costs is an appropriate use of its exclusion discretion. NOAA has correctly refrained from adding speculative economic benefits of habitat designation into this balancing function. There is no need for NOAA to engage in the controversial and costly process of estimating economic benefits of habitat protection because the ESA requires that the designation be based only on biological benefits – the conservation of the species. Areas should not be

included in a critical habitat designation to confer economic benefits on selected interests at a great cost to others.

Recognition that Special Management Measures Are Already Provided.

The exclusion process for the proposed designations has also been improved by NOAA Fisheries' consideration of other non-economic benefits of excluding habitat from designation. Section 4(b)(2) of the ESA allows NOAA Fisheries broad discretion to exclude any area from critical habitat designation where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not jeopardize the continued existence of a listed species. 16 U.S.C. § 1533(b)(2); 50 C.F.R. § 424.19. For example, the USFWS has typically excluded from designation areas that are specially managed under ESA-approved conservation plans such as habitat conservation plans (HCPs) and Safe Harbor Agreements approved under Section 10 of the ESA. The USFWS has long stated that in most instances the benefits of excluding areas covered by such plans will outweigh the benefits of including them. *See, e.g., Final Rule Designating Critical Habitat for the California tiger salamander*, 69 Fed. Reg. 68568, 68593 (Nov. 24, 2004) (excluding privately-owned areas already managed on a cooperative, voluntary basis for conservation of the species); *Final Rule Designating Critical Habitat for the Quino checkerspot butterfly*, 67 F.R. 18356, 18367-369 (April 15, 2002) (excluding areas managed under HCPs because the benefits of exclusion outweigh the small or non-existent benefits of inclusion).

NOAA Fisheries should join the USFWS in recognizing that special management tools such as HCPs typically provide equal or greater conservation benefits than future section 7 consultations. HCPs, for example, assure the long term protection and management of a covered species and its habitat, and funding for such management. Further, HCPs apply conservation management to nonfederal actions that would otherwise be excluded from section 7 consultation because they rarely require federal authorization or involvement. However, in those instances where there is a federal nexus with nonfederal activity, inclusion of HCP areas in critical habitat would create a *disincentive* for landowners to develop long-term conservation plans and similar voluntary efforts to go beyond minimum compliance with ESA section 9. *See, e.g., Final Rule Designating Critical Habitat for the California tiger salamander*, 69 Fed. Reg. at 68593 (recognizing inclusion of areas already managed for conservation of the species would provide disincentives for similar efforts in the future).

GDRCo urges NOAA Fisheries to follow the practice of excluding areas that are subject to existing and future approved HCPs, agreements, permits, and other forms of conservation commitments. It is our firm conviction that the areas covered by the current forest practices rules in Oregon and Washington along with the Oregon Plan for Salmon and Watersheds, the Washington Forests and Fish Rules, and GDRCo's aquatic HCP in Washington provide effective long-term special management protection for salmon and steelhead habitat and consequently should not be designated as critical habitat. Designating these areas as critical habitat and requiring additional forest management restrictions would place an unnecessary and unreasonable economic burden on private forest landowners without providing a corresponding benefit to protecting fish habitat. Rather than another regulatory burden, private forest landowners need economic

and regulatory certainty to offset the enormous costs and commitments associated with keeping their lands in forestry and protecting both listed and unlisted species of fish and wildlife.

In June of 2004, the USFWS recognized the important contribution state and private forestlands in western Washington are making to protect fish habitat and water quality by exempting from the designation of critical habitat for bull trout those areas under legally operative HCPs, draft HCPs that cover the species and have undergone public review and comment (*i.e.*, pending HCPs), and lands covered by the Washington Forests & Fish Rules. *See Final Rule Designating Critical Habitat for the Klamath River and Columbia River Populations of Bull Trout*, 69 Fed. Reg. 59996, 60025-30 (Oct. 6, 2004). HCPs and the Forest & Fish Rules were developed to provide the habitat protection and the cool clean water necessary for listed as well as unlisted fish and aquatic species. The proposal by the USFWS not to designate critical habitat for private forestland in Washington is a strong indicator of the adequacy of the Forests & Fish Rules to protect listed species, and an important indicator that Washington's state forest practices regulations meet the requirements of the federal ESA.

As an industry we've been supportive of substantive changes in forest practices rules in Oregon and Washington to protect clean water and habitat for all fish, including salmon and steelhead. In addition to adhering to rigorous forest practices rules to protect water quality and fish habitat for salmon and steelhead, GDRCo has voluntarily entered into an aquatic HCP in Washington in 2000, and has actively implemented the provisions of the Oregon Plan for Salmon and Watersheds since 1998.

Like Washington's Forests & Fish Rules, GDRCo's HCP was negotiated with and approved by the NMFS, USFWS and the Environmental Protection Agency (EPA). The Forests & Fish Rules and GDRCo's HCP addressed the needs of federally listed and unlisted fish species. Both agreements have incorporated comprehensive management practices to protect riparian habitat including large streamside buffers and restrictive operating guidelines for forestry practices near or adjacent to streams. Both agreements also require the improvement of all existing roads to limit the delivery of sediment and surface runoff water to streams, and to provide fish passage to fish in all life stages. In addition, both agreements contain adaptive management provisions that utilize scientific processes, evaluations and studies to guide any necessary changes.

GDRCo has been aggressively implementing the provisions of these agreements since they were enacted. In addition to the company's efforts, all the appropriate state and federal regulatory agencies have also been actively engaged in monitoring and enforcement activities to ensure the provisions of these agreements are being fully implemented.

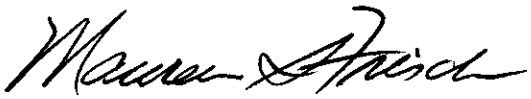
Conclusion.

We urge NOAA Fisheries not to designate critical habitat on non-federal lands for Pacific salmon and steelhead in areas that are already effectively protected with special management considerations by HCPs, the existing comprehensive forest practices regulations in Oregon and Washington, and the voluntary actions of forest landowners under the Oregon Plan for Salmon and Watersheds. With the above-described protection in place, the designation would add another costly regulatory overlay for landowners

without providing additional resource protection benefits. Non-federal lands are already making an enormous contribution to protect clean water and fish habitat for listed and unlisted aquatic species in Oregon and Washington. Non-federal landowners have been spending and continue to spend vast sums of money on enhanced road construction and maintenance programs, as well as increasing the size and protection standards for riparian areas. The designation of critical habitat will discourage rather than encourage non-federal landowners to retain their lands in forestry.

We hope you will carefully consider our comments.

Sincerely,



Maureen S. Frisch
Vice President, Public Affairs and Human Resources

Attachment 4

WEST FORK TIMBER COMPANY, LLC

PUBLIC COMMENTS
On
SALMON CRITICAL HABITAT

January 18, 2005

My name is Scott Swanson. I am the Manager of West Fork Timber Company, LLC. We are a small private, family-owned timber company that is in its twelfth year of implementing a Habitat Conservation Plan (HCP) on our 55,000-acre tree farm in eastern Lewis County, WA.

Our HCP covers all species that are found on our property, now or in the future. Our HCP provides juvenile Northern Spotted Owl dispersal habitat and, through watershed analysis, also provides additional riparian reserve areas of habitat.

Our interdisciplinary team successfully developed watershed analysis prescriptions for our entire tree farm, for all nine Watershed Administrative Units (WAU) that cover our property, during 1993 through 1999. Each one of these WAUs has had at least one 5-year review since that time. Our HCP protection measures and watershed prescriptions have focused on riparian and sensitive-slope reserve protections. These streamside protection areas have been set-aside for the 100-year life of our HCP. They help provide habitat and cool, clean water throughout our ownership.

We believe that areas that are protected by an HCP do not warrant additional critical habitat designation for salmon. We believe this would be a duplicative effort. Areas under HCP protection measures already provide conservation benefits for fish. Fish habitat and water quality are being protected on our tree farm. Adding critical habitat designations on these HCP lands are unnecessary and would be a disincentive to other forest landowners who may consider HCP protections somewhere nearby in the future.

We have been successfully protecting riparian habitat and water quality on our tree farm through these contractual protection measures and, we will continue to due so, at least through the year 2095. A critical habitat designation of HCP lands is unwarranted and unnecessary.

Thank you for your time and your consideration of this information.

Sincerely,

Scott E. Swanson

Scott E. Swanson

P.O. Box 186
Mineral, WA 98355

APPENDIX D

MEMO August 10, 2005

To: File

From: Donna Darm, Assistant Regional Administrator, PRD

Subject: Critical Habitat Designation for Evolutionarily Significant Units (ESU) of West Coast Salmon and Steelhead – *Analysis of the Benefits of Designation versus the Economic Benefits of Exclusion*

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 December 14, 2004 we published a *Federal Register* Notice proposing to exclude particular areas from critical habitat designation where the economic impacts of designation outweighed the conservation benefits of designation. We defined particular areas as the occupied streams within a watershed. The proposed exclusions based on economic impacts followed a cost-effectiveness approach in which we prioritized for exclusion those areas with a relatively low conservation value and high economic impact. To implement this approach, we first determined the relative conservation value of each particular area (high, medium, or low). In a separate effort we estimated the economic impact likely to result from section 7 consultations in each area. 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. We then considered 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 in the proposed rule. Although we received numerous comments on our estimate of economic impacts, we received very few comments on our cost-effectiveness framework, only one comment objecting to our use of relative (as opposed to absolute) conservation values as a basis for exclusion, and no comments on the dollar thresholds we selected.

For the final designation, we recommend retaining the cost-effectiveness approach to excluding areas based on economic impacts. We have adjusted the conservation ratings 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 has resulted in an additional consideration of areas with both a low conservation rating and low section 7 "leverage." We recommend retaining the dollar thresholds we established for the proposed rule, with the addition of a

lower dollar threshold for the areas rated as having a low conservation value and low section 7 "leverage." For Idaho watersheds in the range of the Snake River steelhead ESU we recommend using a dollar threshold that is 40 percent of the threshold for other ESUs, based on the fact that the watersheds for the Idaho portion of this ESU contain on average only 40 percent as much area as watersheds within the range of the other ESUs. These thresholds are:

For considering exclusion of areas having a medium benefit of designation:
$300,000 ($120,000 for ID watersheds in the range of the Snake River steelhead ESU)

For considering exclusion of areas having a low benefit of designation:
$85,000 ($34,000 for ID watersheds in the range of the Snake River steelhead ESU)

For considering exclusion of areas having a very low benefit of designation:
$1000 ($400 for ID watersheds in the range of the Snake River steelhead ESU)

As before, we recommend that areas with a high conservation value not be considered for exclusion because excluding these areas would significantly impede conservation. The exception would be where an area has a high conservation value but low section 7 "leverage." In that case, we considered the area as being eligible for exclusion if the dollar impacts met the threshold we had established for a medium value area.

The tables and maps that follow illustrate the results of applying this approach. Where a table shows that an area was eligible for exclusion but not excluded, there is a footnote that explains our conclusion that excluding this area would significantly impede conservation.

Attachments:
(1) ESU 4(b)(2) Tables
(2) ESU Ratings Maps
(3) ESU Exclusion Maps

Table D.1. Puget Sound Chinook ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Puget Sound Chinook Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
STRAIT OF GEORGIA	1711000201	Bellingham Bay	L			$823,939		$9.65		Yes	--	Entire watershed	$823,939
STRAIT OF GEORGIA	1711000202	Samish River	L			$656,513		$30.78		Yes	--	Entire watershed	$656,513
STRAIT OF GEORGIA	1711000204	Birch Bay	L			$576,431		$35.95		Yes	--	Entire watershed	$576,431
NOOKSACK	1711000401	Upper North Fork Nooksack River	H			$313,057		$0.00		--	--	None	--
NOOKSACK	1711000402	Middle Fork Nooksack River	M			$80,861		$86.68		--	--	None	--
NOOKSACK	1711000403	South Fork Nooksack River	H			$217,491		$113.29		--	--	None	--
NOOKSACK	1711000404	Lower North Fork Nooksack River	H	H		$157,239	$12,992	$24.40	$2.53	--	--	None	--
NOOKSACK	1711000405	Nooksack River	H	H		$543,840	$152,176	$10.64	$2.35	--	--	None	--
UPPER SKAGIT	1711000504	Skagit River/Gorge Lake	H			$2,004,813		$0.00		--	--	None	--
UPPER SKAGIT	1711000505	Skagit River/Diobsud Creek	H	H		$179,692	$166,370	$8.27	$0.00	--	--	None	--
UPPER SKAGIT	1711000506	Cascade River	H			$192,029		$95.95		--	--	None	--
UPPER SKAGIT	1711000507	Skagit River/Illabot Creek	H	H		$327,016	$274,179	$63.32	$13.04	--	--	None	--
UPPER SKAGIT	1711000508	Baker River	M			$6,175,550		$302.96		Yes	--	Entire watershed	$6,175,550
SAUK	1711000601	Upper Sauk River	H			$463,072		$3,027.78		--	--	None	--
SAUK	1711000602	Upper Suiattle River	H			$39,650		$0.00		--	--	None	--
SAUK	1711000603	Lower Suiattle River	H	H		$338,598	$306,791	$32.35	$32.35	--	--	None	--
SAUK	1711000604	Lower Sauk River	H	H		$345,774	$320,489	$12.22	$10.25	--	--	None	--
LOWER SKAGIT	1711000701	Middle Skagit River/Finney Creek	H	H		$518,581	$392,004	$32.79	$27.51	--	--	None	--
LOWER SKAGIT	1711000702	Lower Skagit River/Nookachamps Creek	H	H		$792,891	$213,018	$15.30	$3.64	--	--	None	--
STILLAGUAMISH	1711000801	North Fork Stillaguamish River	H			$354,258		$12.93		--	--	None	--
STILLAGUAMISH	1711000802	South Fork Stillaguamish River	H			$561,207		$12.77		--	--	None	--
STILLAGUAMISH	1711000803	Lower Stillaguamish River	H	H		$357,076	$19,836	$13.00	$0.47	--	--	None	--
SKYKOMISH	1711000901	Tye and Beckler Rivers	H			$674,489		$717.11		--	--	None	--
SKYKOMISH	1711000902	Skykomish River Forks	H	H		$745,300	$637,915	$1.25	$0.00	--	--	None	--
SKYKOMISH	1711000903	Skykomish River/Wallace River	H	H		$270,222	$175,754	$10.33	$2.61	--	--	None	--
SKYKOMISH	1711000904	Sultan River	H			$2,786,500		$59.18		--	--	None	--
SKYKOMISH	1711000905	Skykomish River/Woods Creek	H	H		$265,669	$138,547	$5.21	$0.22	--	--	None	--
SNOQUALMIE	1711001003	Middle Fork Snoqualmie River	H			$3,422,570		$22.23		--	--	None	--
SNOQUALMIE	1711001004	Lower Snoqualmie River	H	H		$620,057	$331,488	$20.57	$10.86	--	--	None	--
SNOHOMISH	1711001101	Pilchuck River	M			$238,326		$4.10		--	--	None	--
SNOHOMISH	1711001102	Snohomish River	H	H		$1,407,337	$211,944	$7.67	$0.90	--	--	None	--
LAKE WASHINGTON	1711001201	Cedar River	H			$5,343,234		$16.50		--	--	None	--
LAKE WASHINGTON	1711001202	Lake Sammamish	M			$1,962,646		$19.65		Yes	--	Entire watershed	$1,962,646
LAKE WASHINGTON	1711001203	Lake Washington	M	H		$15,308,987	$377,381	$23.89	$0.34	--	Yes	Tributaries Only	$377,381
LAKE WASHINGTON	1711001204	Sammamish River	M	M		$2,065,625	$296,415	$5.29	$0.45	Yes	--	Entire watershed	$2,065,625
DUWAMISH	1711001301	Upper Green River	M			$449,922		$0.00		Yes	--	None[a]	--
DUWAMISH	1711001302	Middle Green River	H	H		$322,505	$252,300	$81.66	$49.13	--	--	None	--
DUWAMISH	1711001303	Lower Green River	H	H		$2,668,259	$731,700	$6.91	$1.65	--	--	None	--
PUYALLUP	1711001401	Upper White River	H			$458,897		$0.00		--	--	None	--
PUYALLUP	1711001402	Lower White River	H	H		$1,382,377	$289,740	$19.09	$2.98	--	--	None	--
PUYALLUP	1711001403	Carbon River	H			$312,187		$6.70		--	--	None	--
PUYALLUP	1711001404	Upper Puyallup River	H			$2,816,664		$23.44		--	--	None	--
PUYALLUP	1711001405	Lower Puyallup River	H	H		$989,494	$230,515	$3.39	$0.59	--	--	None	--
NISQUALLY	1711001502	Mashel/Ohop	H			$254,848		$31.79		--	--	None	--
NISQUALLY	1711001503	Lowland	H	H		$405,270	$205,439	$6.15	$3.23	--	--	None	--
DESCHUTES	1711001601	Prairie	L			$408,052		$131.81		Yes	--	Entire watershed	$408,052
DESCHUTES	1711001602	Prairie	L	L		$169,034	$71,071	$2.67	$1.12	Yes	--	Entire watershed	$169,034
SKOKOMISH	1711001701	Skokomish River	H			$996,783		$23.65		--	--	None	--
HOOD CANAL	1711001802	Lower West Hood Canal Frontal	L			$104,792		$18.41		Yes	--	Entire watershed	$104,792
HOOD CANAL	1711001803	Hamma Hamma River	M			$172,164		$35.79		--	--	None	--
HOOD CANAL	1711001804	Duckabush River	H			$54,104		$0.00		--	--	None	--
HOOD CANAL	1711001805	Dosewallips River	H			$84,596		$0.00		--	--	None	--
HOOD CANAL	1711001806	Big Quilcene River	L			$174,105		$27.44		Yes	--	Entire watershed	$174,105
HOOD CANAL	1711001808	West Kitsap	L			$285,269		$9.22		Yes	--	Entire watershed	$285,269
KITSAP	1711001900	Kennedy/Goldsborough	L			$595,781		$14.70		Yes	--	Entire watershed	$595,781
KITSAP	1711001901	Puget	L			$2,247,162		$9.00		Yes	--	Entire watershed	$2,247,162
KITSAP	1711001902	Prairie	L			$633,860		$8.08		Yes	--	Entire watershed	$633,860
KITSAP	1711001904	Puget Sound/East Passage	L			$1,797,474		$5.03		Yes	--	Entire watershed	$1,797,474
DUNGENESS/ELWHA	1711002003	Dungeness River	H			$254,992		$4.82		--	--	None	--
DUNGENESS/ELWHA	1711002004	Port Angeles Harbor	M			$504,227		$15.24		Yes	--	Entire watershed	$504,227
DUNGENESS/ELWHA	1711002007	Elwha River	H			$3,356,869		$21.61		--	--	None	--
	N01	Nearshore Marine Area	H			$1,537,426		$2,147.82		--	--	None	--

N02	Nearshore Marine Area	H		$1,621,739	$7,834.49	--	--	None	--
N03	Nearshore Marine Area	H		$1,446,564	$2,406.93	--	--	None	--
N04	Nearshore Marine Area	H		$1,445	$65.69	--	--	None	--
N05	Nearshore Marine Area	H		$783,945	$1,696.85	--	--	None	--
N06	Nearshore Marine Area	H		$830,025	$2,091.46	--	--	None	--
N07	Nearshore Marine Area	H		$873,801	$614.77	--	--	None	--
N08	Nearshore Marine Area	H		$1,572,958	$567.65	--	--	None	--
N09	Nearshore Marine Area	H		$995,980	$1,960.59	--	--	None	--
N10	Nearshore Marine Area	H		$13,625	$4,541.67	--	--	None	--
N11	Nearshore Marine Area	H		$253,070	$910.32	--	--	None	--
N12	Nearshore Marine Area	H		$610,418	$2,034.73	--	--	None	--
N13	Nearshore Marine Area	H		$247,970	$1,024.67	--	--	None	--
N14	Nearshore Marine Area	H		$3,355,422	$1,009.76	--	--	None	--
N15	Nearshore Marine Area	H		$940,534	$943.36	--	--	None	--
N16	Nearshore Marine Area	H		$340,625	$1,669.73	--	--	None	--
N17	Nearshore Marine Area	H		$112,823	$3,407.91	--	--	None	--
N18	Nearshore Marine Area	H		$1,452,160	$3,330.64	--	--	None	--
N19	Nearshore Marine Area	H		$835,624	$0.00	--	--	None	--

Maximum economic impact if all areas were designated as critical habitat	$90,856,381
Total reduction in economic impact of exclusions	$19,557,841
Total economic impact of areas designated for critical habitat	$71,298,540
Percent reduction in economic impact due to economic exclusions	21.5%
Percent reduction in miles designated as critical habitat due to economic exclusions	18.0%

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).

** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that excluding this watershed would siginficantly impede conservation, noting the significant restoration efforts being made here by the Muckleshoot Tribe and others.

Table D.2. Lower Columbia River Chinook ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Lower Columbia River Chinook Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
MIDDLE COLUMBIA/HOOD	1707010506	East Fork Hood River	H			$546,239		$53.85		–	--	None	--
MIDDLE COLUMBIA/HOOD	1707010507	West Fork Hood River	H			$295,609		$22.18		--	–	None	--
MIDDLE COLUMBIA/HOOD	1707010508	Hood River	H	H		$1,394,000	$169,759	$8.37	$6.56	--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010509	White Salmon River	H			$2,141,761		$4.15		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010510	Little White Salmon River	M			$602,109		$340.63		Yes	–	Entire watershed	$602,109
MIDDLE COLUMBIA/HOOD	1707010511	Wind River	H			$779,775		$17.74		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010512	Middle Columbia/Grays Creek	M	H		$390,804	$377,204	$5.54	$4.03	--	Yes	Tributaries Only	$377,204
MIDDLE COLUMBIA/HOOD	1707010513	Middle Columbia/Eagle Creek	H	H		$283,053	$277,613	$11.09	$9.53	--	--	None	--
LOWER COLUMBIA/SANDY	1708000101	Salmon River	H			$224,301		$8.84		–	--	None	--
LOWER COLUMBIA/SANDY	1708000102	Zigzag River	H			$174,579		$6.54		--	--	None	--
LOWER COLUMBIA/SANDY	1708000103	Upper Sandy River	H			$110,040		$0.00		–	--	None	--
LOWER COLUMBIA/SANDY	1708000104	Middle Sandy River	H	H		$160,788	$159,428	$9.72	$9.53	–	--	None	--
LOWER COLUMBIA/SANDY	1708000105	Bull Run River	H			$1,936,112		$421.12		–	--	None	--
LOWER COLUMBIA/SANDY	1708000106	Washougal River	M			$400,380		$8.27		Yes	–	None[a]	--
LOWER COLUMBIA/SANDY	1708000107	Columbia Gorge Tributaries	H	H		$926,364	$430,448	$58.48	$3.20	--	--	None	--
LOWER COLUMBIA/SANDY	1708000108	Lower Sandy River	H	H		$231,889	$212,931	$3.79	$3.36	–	--	None	--
LOWER COLUMBIA/SANDY	1708000109	Salmon Creek	L			$3,932,625		$13.60		Yes	–	Entire watershed	$3,932,625
LEWIS	1708000205	East Fork Lewis River	H			$825,871		$16.71		--	--	None	--
LEWIS	1708000206	Lower Lewis River	H	H		$552,177	$147,692	$32.81	$0.29	--	--	None	--
LOWER COLUMBIA/CLATSKANIE	1708000301	Kalama River	M			$556,980		$65.81		Yes	--	None[b]	--
LOWER COLUMBIA/CLATSKANIE	1708000302	Beaver Creek/Columbia River	L			$119,088		$7.10		Yes	–	Entire watershed	$119,088
LOWER COLUMBIA/CLATSKANIE	1708000303	Clatskanie River	M	M		$34,162	$4,192	$11.42	$0.07	--	--	None	--
LOWER COLUMBIA/CLATSKANIE	1708000304	Germany/Abernathy	M			$2,130,210		$49.06		Yes	--	Entire watershed	$2,130,210
LOWER COLUMBIA/CLATSKANIE	1708000305	Skamokawa/Elochoman	H			$249,330		$121.68		–	--	None	–
LOWER COLUMBIA/CLATSKANIE	1708000306	Plympton Creek	H			$66,963		$55.48		--	–	None	--
UPPER COWLITZ	1708000401	Headwaters Cowlitz River	H			$177,224		$0.00		--	--	None	--
UPPER COWLITZ	1708000402	Upper Cowlitz River	H	H		$3,058,911	$362,857	$12.03	$0.00	--	--	None	--
UPPER COWLITZ	1708000403	Cowlitz Valley Frontal	H	H		$640,400	$587,865	$25.23	$9.03	–	--	None	–
UPPER COWLITZ	1708000404	Upper Cispus River	H			$691,534		$0.00		--	--	None	--
UPPER COWLITZ	1708000405	Lower Cispus River	H	H		$718,610	$677,735	$444.29	$0.00	--	--	None	--
COWLITZ	1708000501	Tilton River	M			$334,540		$13.48		Yes	--	Entire watershed	$334,540
COWLITZ	1708000502	Riffe Reservoir	H	H		$720,376	$231,547	$33.09	$32.75	--	--	None	--
COWLITZ	1708000503	Jackson Prairie	M	H		$596,687	$226,879	$82.09	$25.54	--	--	None	--
COWLITZ	1708000504	North Fork Toutle River	M	H		$368,903	$368,903	$21,205.00	$21,205.00	--	Yes	Tributaries Only	$368,903
COWLITZ	1708000505	Green River	H			$160,091		$0.00		–	--	None	--
COWLITZ	1708000506	South Fork Toutle River	H			$49,843		$1.82		--	–	None	--
COWLITZ	1708000507	East Willapa	M	H		$380,185	$234,415	$20.81	$9.61	--	--	None	--
COWLITZ	1708000508	Coweeman	H	H		$410,828	$37,198	$13.72	$1.24	–	--	None	--
LOWER COLUMBIA	1708000601	Youngs River	M			$734,900		$56.78		Yes	--	Entire watershed	$734,900
LOWER COLUMBIA	1708000602	Big Creek	H			$204,942		$19.07		--	–	None	--
GRAYS/ELOKOMAN	1708000603	Grays Bay	H			$68,187		$37.90		--	--	None	--
MIDDLE WILLAMETTE	1709000704	Abernethy Creek	L			$688,259		$3.83		Yes	–	Entire watershed	$688,259
CLACKAMAS	1709001105	Eagle Creek	L			$111,160		$8.32		Yes	--	Entire watershed	$111,160
CLACKAMAS	1709001106	Lower Clackamas River	H	H		$1,091,414	$375,602	$6.81	$6.28	--	--	None	--
LOWER WILLAMETTE	1709001201	Johnson Creek	M	H		$709,252	$324,816	$2.10	$0.86	--	Yes	None[c]	--
LOWER WILLAMETTE	1709001202	Scappoose Creek	M	H		$646,990	$183,619	$24.31	$5.34	--	--	None	--
LOWER WILLAMETTE	1709001203	Columbia Slough/Willamette River	H	H		$3,531,273	$796,673	$7.85	$1.36	--	--	None	--
Lower Columbia Corridor (Sandy/Washougal to Ocean)				H		$2,395,331		$693.37		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$37,555,049
Total reduction in economic impact of exclusions	$9,398,998
Total economic impact of areas designated for critical habitat	$28,156,051
Percent reduction in economic impact due to economic exclusions	25.0%
Percent reduction in miles designated as critical habitat due to economic exclusions	21.2%

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).

** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that excluding this watershed would significantly impede conservation, noting that the Lower Columbia Fish Recovery Board's interim recovery plan emphasizes achieving a high viability level for Washougal River fall chinook.

[b] CHART concluded that excluding this watershed would significantly impede conservation, noting that the Kalama River is important because it supports both fall- and spring-run fish, represents a substantial amount of the remaining spring-run habitat for this ESU, and is emphasized in the Lower Columbia River Fish Recovery Board's interim recovery plan.

[c] CHART concluded that excluding this watershed would significantly impede conservation, citing comments by City of Portland and noting that this watershed provides important refuge habitat for Clackamas River chinook as well as unique habitat conditions (especially year-round thermal conditions) that promote adaptations and ESU diversity in an urbanized watershed.

Table D.3. Upper Willamette River Chinook ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Upper Willamette River Chinook Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Unit/Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
MIDDLE FORK WILLAMETTE	1709000101	Upper Middle Fork Willamette River	H			$591,291		$0.00		--	--	None	--
MIDDLE FORK WILLAMETTE	1709000102	Hills Creek	M			$221,253		$0.00		--	--	None	--
MIDDLE FORK WILLAMETTE	1709000103	Salt Creek/Willamette River	H			$417,342		$0.00		--	--	None	--
MIDDLE FORK WILLAMETTE	1709000104	Salmon Creek	M			$529,883		$101.10		Yes	--	Entire watershed	$529,883
MIDDLE FORK WILLAMETTE	1709000105	Hills Creek Reservoir	M	H		$656,373	$655,013	$9.44	$8.87	--	Yes	None[a]	--
MIDDLE FORK WILLAMETTE	1709000106	North Fork Of Middle Fork Willamette River	H			$752,488		$1.96		--	--	None	--
MIDDLE FORK WILLAMETTE	1709000107	Middle Fork Willamette/Lookout Point	M	H		$378,088	$374,008	$2.68	$1.38	--	Yes	None[b]	--
MIDDLE FORK WILLAMETTE	1709000108	Little Fall Creek	M			$58,271		$3.79		--	--	None	--
MIDDLE FORK WILLAMETTE	1709000109	Fall Creek	H	H		$697,843	$697,843	$122.62	$122.62	--	--	None	--
MIDDLE FORK WILLAMETTE	1709000110	Lower Middle Fork Of Willamette River	M	H		$67,701	$63,621	$3.77	$3.40	--	--	None	--
COAST FORK WILLAMETTE	1709000201	Row River	L	L		$762,985	$760,264	$49.22	$48.15	Yes	--	Entire watershed	$762,985
COAST FORK WILLAMETTE	1709000202	Mosby Creek	L			$101,418		$15.37		Yes	--	Entire watershed	$101,418
COAST FORK WILLAMETTE	1709000203	Upper Coast Fork Willamette River	L			$289,515		$11.14		Yes	--	Entire watershed	$289,515
COAST FORK WILLAMETTE	1709000205	Lower Coast Fork Willamette River	L	L		$119,347	$77,478	$7.49	$4.18	Yes	--	Entire watershed	$119,347
UPPER WILLAMETTE	1709000301	Long Tom River	L			$501,323		$3.11		Yes	--	Entire watershed	$501,323
UPPER WILLAMETTE	1709000302	Muddy Creek	L	H		$780,805	$349,864	$4.28	$1.64	--	Yes	Tributaries Only	$349,864
UPPER WILLAMETTE	1709000303	Calapooia River	M			$129,334		$4.50		--	--	None	--
UPPER WILLAMETTE	1709000304	Oak Creek	L	H		$278,527	$92,048	$4.57	$1.36	--	Yes	Tributaries Only	$92,048
UPPER WILLAMETTE	1709000305	Marys River	M			$454,278		$9.65		Yes	--	None[c]	--
UPPER WILLAMETTE	1709000306	Luckiamute River	M			$212,536		$26.70		--	--	None	--
MCKENZIE	1709000401	Upper McKenzie River	H	H		$4,236,484	$917,231	$5.19	$0.00	--	--	None	--
MCKENZIE	1709000402	Horse Creek	H			$175,479		$0.00		--	--	None	--
MCKENZIE	1709000403	South Fork McKenzie River	H			$385,985		$0.00		--	--	None	--
MCKENZIE	1709000404	Blue River	M			$438,515		$702.16		Yes	--	Entire watershed	$438,515
MCKENZIE	1709000405	McKenzie River/Quartz Creek	H	H		$159,173	$159,173	$0.00	$0.00	--	--	None	--
MCKENZIE	1709000406	Mohawk River	M		Yes	$159,665		$2.58		Yes	--	Entire watershed	$159,665
MCKENZIE	1709000407	Lower McKenzie River	H	H		$504,472	$394,614	$7.37	$5.71	--	--	None	--
NORTH SANTIAM	1709000504	Middle North Santiam River	H	H		$49,115	$45,035	$7.00	$5.87	--	--	None	--
NORTH SANTIAM	1709000505	Little North Santiam River	H			$100,844		$0.38		--	--	None	--
NORTH SANTIAM	1709000506	Lower North Santiam River	M	H		$164,093	$73,392	$10.61	$5.45	--	--	None	--
SOUTH SANTIAM	1709000601	Hamilton Creek/South Santiam River	H	H		$154,030	$117,474	$3.72	$2.15	--	--	None	--
SOUTH SANTIAM	1709000602	Crabtree Creek	M			$116,554		$0.52		--	--	None	--
SOUTH SANTIAM	1709000603	Thomas Creek	M			$95,889		$4.16		--	--	None	--
SOUTH SANTIAM	1709000606	South Santiam River	H			$522,291		$52.31		--	--	None	--
SOUTH SANTIAM	1709000607	South Santiam River/Foster Reservoir	H	H		$1,454	$94	$2.30	$0.01	--	--	None	--
SOUTH SANTIAM	1709000608	Wiley Creek	M			$29,396		$20.95		--	--	None	--
MIDDLE WILLAMETTE	1709000701	Mill Creek/Willamette River	L	H		$760,980	$138,745	$14.83	$2.59	--	Yes	Tributaries Only	$138,745
MIDDLE WILLAMETTE	1709000702	Rickreall Creek	L	H		$351,297	$325,539	$9.15	$8.39	--	Yes	Tributaries Only	$325,539
MIDDLE WILLAMETTE	1709000703	Willamette River/Chehalem Creek	L	H		$565,087	$446,795	$2.91	$2.25	--	Yes	Tributaries Only	$446,795
MIDDLE WILLAMETTE	1709000704	Abernethy Creek	L	H		$692,059	$303,203	$3.88	$2.97	--	Yes	Tributaries Only	$303,203
YAMHILL	1709000804	Lower South Yamhill River	L			$101,440		$11.49		Yes	--	Entire watershed	$101,440
YAMHILL	1709000805	Salt Creek/South Yamhill River	L			$184,314		$41.54		Yes	--	Entire watershed	$184,314
YAMHILL	1709000806	North Yamhill River	L			$288,743		$21.45		Yes	--	Entire watershed	$288,743
YAMHILL	1709000807	Yamhill River	L	L		$184,908	$147,761	$5.68	$4.54	Yes	--	Entire watershed	$184,908
MOLALLA/PUDDING	1709000901	Abiqua Creek/Pudding River	M			$803,696		$15.25		Yes	--	Entire watershed	$803,696
MOLALLA/PUDDING	1709000902	Butte Creek/Pudding River	L	M		$123,358	$107,120	$13.62	$11.59	--	Yes	Tributaries Only	$107,120
MOLALLA/PUDDING	1709000903	Rock Creek/Pudding River	L			$117,533		$10.84		Yes	--	Entire watershed	$117,533
MOLALLA/PUDDING	1709000904	Senecal Creek/Mill Creek	L	M		$125,878	$113,638	$4.46	$4.03	--	Yes	Tributaries Only	$113,638
MOLALLA/PUDDING	1709000905	Upper Molalla River	M			$178,571		$2.61		--	--	None	--
MOLALLA/PUDDING	1709000906	Lower Molalla River	M	M		$124,477	$120,397	$5.96	$5.73	--	--	None	--
CLACKAMAS	1709001101	Collawash River	H			$436,173		$577.71		--	--	None	--
CLACKAMAS	1709001102	Upper Clackamas River	H			$557,445		$0.00		--	--	None	--
CLACKAMAS	1709001103	Oak Grove Fork Clackamas River	H			$1,195,914		$0.00		--	--	None	--
CLACKAMAS	1709001104	Middle Clackamas River	H	H		$2,927,818	$773,808	$7.85	$0.32	--	--	None	--
CLACKAMAS	1709001105	Eagle Creek	L			$111,160		$8.32		Yes	--	Entire watershed	$111,160
CLACKAMAS	1709001106	Lower Clackamas River	H	H		$1,089,401	$373,588	$6.77	$6.24	--	--	None	--
LOWER WILLAMETTE	1709001201	Johnson Creek		H		$384,436		$2.10		--	--	None	--
LOWER WILLAMETTE	1709001202	Scappoose Creek		H		$463,372		$24.21		--	--	None	--
LOWER WILLAMETTE	1709001203	Columbia Slough/Willamette River		H		$2,734,600		$7.84		--	--	None	--
Lower Columbia Corridor (Willamette to Ocean)				H		$2,395,331		$693.07		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$32,192,031
Total reduction in economic impact of exclusions	$6,571,397
Total economic impact of areas designated for critical habitat	$25,620,634
Percent reduction in economic impact due to economic exclusions	20.4%
Percent reduction in miles designated as critical habitat due to economic exclusions	18.0%

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).
** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that exclusion would significantly impede conservation, noting that this watershed supports a local-origin, core population which may have been the largest in the entire subbasin. The primary reason this watershed was not assigned a High conservation value rating is due to reservoir inundation.

[b] CHART concluded that exclusion would significantly impede conservation, noting that this watershed supports a local-origin, core population which may have been the largest in the entire subbasin. Lost Creek represents the only unregulated stream with chinook spawning in this area. The primary reason this watershed was not assigned a High conservation value rating is due to reservoir inundation.

[c] CHART concluded that exclusion would significantly impede conservation, noting that the Mary's provides extensive rearing habitat (especially for overwintering) that is critical for maintaining and restoring ESU life history diversity.

Table D.4. Upper Columbia River spring-run Chinook ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Upper Columbia River spring-run Chinook Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Unit/Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
CHIEF JOSEPH	1702000505	Upper Columbia/Swamp Creek		H		$207,815		$79.76		--	--	None	--
METHOW	1702000801	Lost River	H			$33,730		$0.00		--	--	None	--
METHOW	1702000802	Upper Methow River	H	H		$394,100	$366,850	$289.89	$0.00	--	--	None	--
METHOW	1702000803	Upper Chewuch River	H			$133,299		$0.00		--	--	None	--
METHOW	1702000804	Lower Chewuch River	H	H		$669,495	$613,635	$200.08	$87.24	--	--	None	--
METHOW	1702000805	Twisp River	H			$355,035		$97.85		--	--	None	--
METHOW	1702000806	Middle Methow River	M	H		$1,087,555	$795,989	$190.05	$90.78	--	Yes	None[a]	--
METHOW	1702000807	Lower Methow River	M	H		$736,648	$616,023	$229.01	$134.41	--	Yes	Tributaries Only	$616,023
UPPER COLUMBIA/ENTIAT	1702001001	Entiat River	H			$1,552,636		$254.64		--	--	None	--
UPPER COLUMBIA/ENTIAT	1702001002	Lake Entiat	M	H		$2,948,332	$1,078,295	$41.40	$12.08	--	Yes	Tributaries Only	$1,078,295
UPPER COLUMBIA/ENTIAT	1702001003	Columbia River/Lynch Coulee		H		$205,095		$284.15		--	--	None	--
UPPER COLUMBIA/ENTIAT	1702001004	Columbia River/Sand Hollow		H		$97,455		$101.03		--	--	None	--
WENATCHEE	1702001101	White River	H			$487,740		$205.64		--	--	None	--
WENATCHEE	1702001102	Chiawa River	H			$511,418		$2.87		--	--	None	--
WENATCHEE	1702001103	Nason/Tumwater	H	H		$699,478	$606,405	$85.15	$8.29	--	--	None	--
WENATCHEE	1702001104	Icicle/Chumstick	M	H		$1,267,452	$707,952	$125.47	$30.00	--	Yes	Tributaries Only	$707,952
WENATCHEE	1702001105	Lower Wenatchee River	M	H		$1,087,805	$985,630	$31.29	$22.26	--	Yes	Tributaries Only	$985,630
UPPER COLUMBIA/PRIEST RAPIDS	1702001604	Yakima River/Hanson Creek		H		$136,970		$37.59		--	--	None	--
UPPER COLUMBIA/PRIEST RAPIDS	1702001605	Middle Columbia/Priest Rapids		H		$6,800		$40.31		--	--	None	--
UPPER COLUMBIA/PRIEST RAPIDS	1702001606	Columbia River/Zintel Canyon		H		$350,384		$6.58		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010101	Upper Lake Wallula		H		$943,445		$32.91		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010102	Lower Lake Wallula		H		$4,080		$31.64		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010106	Upper Lake Umatilla		H		$5,440		$3.20		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010109	Middle Lake Umatilla		H		$36,429		$11.96		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010114	Lower Lake Umatilla		H		$294,327		$571.54		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010501	Upper Middle Columbia/Hood		H		$320,406		$312.71		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010504	Middle Columbia/Mill Creek		H		$147,910		$11.42		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010512	Middle Columbia/Grays Creek		H		$13,600		$5.56		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010513	Middle Columbia/Eagle Creek		H		$5,440		$11.09		--	--	None	--
LOWER COLUMBIA/SANDY	1708000107	Columbia Gorge Tributaries		H		$495,915		$58.47		--	--	None	--
Lower Columbia Corridor (Sandy/Washougal to Ocean)				H		$2,395,331		$693.32		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$17,631,565
Total reduction in economic impact of exclusions	$3,387,900
Total economic impact of areas designated for critical habitat	$14,243,665
Percent reduction in economic impact due to economic exclusions	19.2%
Percent reduction in miles designated as critical habitat due to economic exclusions	2.8%

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).

** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that exclusion would significantly impede conservation, noting that spawning has been observed in this watershed once flows were restored to Wolf Creek. The lower reaches of Wolf Creek, Beaver Creek, and other tributaries in this watershed also provide important winter juvenile rearing habitat.

Table D.5. Hood Canal summer-run chum ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Hood Canal summer-run chum Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
SKOKOMISH	1711001701	Skokomish River	M			$994,719		$22.78		Yes	--	None[a]	--
HOOD CANAL	1711001802	Lower West Hood Canal Frontal	H			$104,792		$18.41		--	--	None	--
HOOD CANAL	1711001803	Hamma Hamma River	H			$172,164		$35.79		--	--	None	--
HOOD CANAL	1711001804	Duckabush River	H			$54,104		$0.00		--	--	None	--
HOOD CANAL	1711001805	Dosewallips River	H			$84,596		$0.00		--	--	None	--
HOOD CANAL	1711001806	Big Quilcene River	H			$174,105		$27.44		--	--	None	--
HOOD CANAL	1711001807	Upper West Hood Canal Frontal	M			$383,755		$106.31		Yes	--	None[b]	--
HOOD CANAL	1711001808	West Kitsap	H			$285,269		$9.22		--	--	None	--
PUGET SOUND	1711001908	Port Ludlow/Chimacum Creek	H			$334,373		$21.28		--	--	None	--
DUNGENESS/ELWHA	1711002001	Discovery Bay	H			$142,616		$17.64		--	--	None	--
DUNGENESS/ELWHA	1711002002	Sequim Bay	H			$88,138		$4.10		--	--	None	--
DUNGENESS/ELWHA	1711002003	Dungeness River	M			$255,018		$4.82		--	--	None	--
	N15	Nearshore Marine Area	H			$940,534		$943.36		--	--	None	--
	N16	Nearshore Marine Area	H			$340,625		$1,669.73		--	--	None	--
	N17	Nearshore Marine Area	H			$112,823		$3,407.91		--	--	None	--
	N18	Nearshore Marine Area	H			$1,452,160		$3,330.64		--	--	None	--
	N19	Nearshore Marine Area	H			$835,624		$0.00		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$6,755,415
Total reduction in economic impact of exclusions	$0
Total economic impact of areas designated for critical habitat	$6,755,415
Percent reduction in economic impact due to economic exclusions	0.0%
Percent reduction in miles designated as critical habitat due to economic exclusions	0.0%

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).
** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] The CHART concluded that exclusion would significantly impede conservation, noting that the watershed has long term stability (e.g., lack of development as well as drought and flood protection from dam) that reinforce the TRT's ecological diversity and spatial diversity parameters.

[b] CHART concluded that exclusion would sigificantly impede conservation given that fish in the Little Quilcene River are part of a larger, essential population in this ESU.

Table D.6. Columbia River chum ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Columbia River chum Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
MIDDLE COLUMBIA/HOOD	1707010509	White Salmon River	H			$2,141,761		$4.15		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010512	Middle Columbia/Grays Creek	H	H		$390,804	$377,204	$5.54	$4.03	--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010513	Middle Columbia/Eagle Creek	H	H		$283,053	$277,613	$11.09	$9.53	--	--	None	--
LOWER COLUMBIA/SANDY	1708000106	Washougal River	H			$400,380		$8.27		--	--	None	--
LOWER COLUMBIA/SANDY	1708000107	Columbia Gorge Tributaries	H	H		$926,794	$430,879	$58.53	$3.25	--	--	None	--
LOWER COLUMBIA/SANDY	1708000109	Salmon Creek	H			$3,931,381		$13.59		--	--	None	--
LEWIS	1708000205	East Fork Lewis River	H			$826,368		$16.73		--	--	None	--
LEWIS	1708000206	Lower Lewis River	H	H		$551,837	$147,352	$32.78	$0.26	--	--	None	--
LOWER COLUMBIA/CLATSKANIE	1708000301	Kalama River	H			$552,741		$65.19		--	--	None	--
LOWER COLUMBIA/CLATSKANIE	1708000304	Germany/Abernathy	H			$2,129,272		$49.04		--	--	None	--
LOWER COLUMBIA/CLATSKANIE	1708000305	Skamokawa/Elochoman	H			$249,330		$121.68		--	--	None	--
COWLITZ	1708000503	Jackson Prairie	H			$598,334		$82.35		--	--	None	--
COWLITZ	1708000504	North Fork Toutle River	M	M		$368,903	$368,903	$21,205.00	$21,205.00	Yes	--	Entire watershed	$368,903
COWLITZ	1708000505	Green River	M		Yes	$160,091		$0.00		Yes	--	Entire watershed	$160,091
COWLITZ	1708000506	South Fork Toutle River	M			$49,791		$1.59		--	--	None	--
COWLITZ	1708000507	East Willapa	H	H		$379,096	$233,326	$20.73	$9.53	--	--	None	--
COWLITZ	1708000508	Coweeman	H	H		$411,464	$37,834	$13.74	$1.26	--	--	None	--
LOWER COLUMBIA	1708000602	Big Creek	H			$204,942		$19.07		--	--	None	--
GRAYS/ELOKOMAN	1708000603	Grays Bay	H			$62,848		$34.94		--	--	None	--
Lower Columbia Corridor (Sandy/Washougal to Ocean)				H		$2,395,331		$693.37		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$17,014,521
Total reduction in economic impact of exclusions	$528,994
Total economic impact of areas designated for critical habitat	$16,485,527
Percent reduction in economic impact due to economic exclusions	3.1%
Percent reduction in miles designated as critical habitat due to economic exclusions	0.4%

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).
** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

Table D.7. Ozette Lake sockeye ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Ozette Lake sockeye Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
HOH/QUILLAYUTE	1710010102	Ozette Lake	H			$2,723		$32.03		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$2,723
Total reduction in economic impact of exclusions	$0
Total economic impact of areas designated for critical habitat	$2,723
Percent reduction in economic impact due to economic exclusions	0.0%
Percent reduction in miles designated as critical habitat due to economic exclusions	0.0%

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).
** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

Table D.8. Upper Columbia River steelhead ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Upper Columbia River steelhead Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
CHIEF JOSEPH	1702000503	Foster Creek	L		Yes	$79,438		$160.73		Yes	--	Entire Watershed	$79,438
CHIEF JOSEPH	1702000504	Jordan/Tumwater	L	L		$16,325	$14,965	$6.67	$6.12	--	--	None	--
CHIEF JOSEPH	1702000505	Upper Columbia/Swamp Creek		H		$207,815		$79.76		--	--	None	--
OKANOGAN	1702000601	Upper Okanogan River	M	H		$824,127	$702,142	$129.28	$106.87	--	Yes	None[a]	--
OKANOGAN	1702000602	Okanogan River/Bonaparte Creek	M	H		$506,102	$448,882	$96.60	$79.09	--	Yes	None[b]	--
OKANOGAN	1702000603	Salmon Creek	H			$572,165		$212.69		--	--	None	--
OKANOGAN	1702000604	Okanogan River/Omak Creek	H	H		$347,196	$302,240	$28.97	$25.12	--	--	None	--
OKANOGAN	1702000605	Lower Okanogan River	M	H		$482,270	$455,020	$140.08	$131.77	--	Yes	None[c]	--
SIMILKAMEEN	1702000704	Lower Silkameen River	H			$106,235		$204.14		--	--	None	--
METHOW	1702000801	Lost River	H			$33,730		$0.00		--	--	None	--
METHOW	1702000802	Upper Methow River	H	H		$394,209	$366,959	$289.89	$0.00	--	--	None	--
METHOW	1702000803	Upper Chewuch River	H			$133,299		$0.00		--	--	None	--
METHOW	1702000804	Lower Chewuch River	H	H		$657,082	$601,222	$176.68	$63.83	--	--	None	--
METHOW	1702000805	Twisp River	H			$356,459		$97.74		--	--	None	--
METHOW	1702000806	Middle Methow River	H	H		$1,148,704	$857,139	$210.51	$111.24	--	--	None	--
METHOW	1702000807	Lower Methow River	H	H		$752,694	$632,069	$240.26	$145.65	--	--	None	--
LAKE CHELAN	1702000903	Lower Chelan	M			$4,735,387		$5.26		Yes	--	Entire watershed	$4,735,387
UPPER COLUMBIA/ENTIAT	1702001001	Entiat River	H			$1,558,092		$259.45		--	--	None	--
UPPER COLUMBIA/ENTIAT	1702001002	Lake Entiat	M	H		$2,956,155	$1,086,119	$41.52	$12.20	--	Yes	Tributaries Only	$1,086,119
UPPER COLUMBIA/ENTIAT	1702001003	Columbia River/Lynch Coulee	H	H		$233,603	$28,508	$286.51	$8.98	--	--	None	--
UPPER COLUMBIA/ENTIAT	1702001004	Columbia River/Sand Hollow	H	H		$130,284	$32,829	$101.03	$0.35	--	--	None	--
WENATCHEE	1702001101	White River	H			$487,740		$205.64		--	--	None	--
WENATCHEE	1702001102	Chiawa River	H			$511,832		$2.87		--	--	None	--
WENATCHEE	1702001103	Nason/Tumwater	H	H		$704,110	$611,037	$89.46	$12.61	--	--	None	--
WENATCHEE	1702001104	Icicle/Chumstick	M	H		$1,302,049	$742,549	$131.38	$35.90	--	Yes	None[d]	--
WENATCHEE	1702001105	Lower Wenatchee River	H	H		$1,173,280	$1,071,104	$38.84	$29.82	--	--	None	--
MOSES COULEE	1702001204	RattleSnake Creek	L			$131,204		$165.59		Yes	--	Entire watershed	$131,204
LOWER CRAB	1702001509	Lower Crab Creek	M			$680,091		$80.34		Yes	--	None[e]	--
UPPER COLUMBIA/PRIEST RAPIDS	1702001604	Yakima River/Hanson Creek	H	H		$271,408	$134,438	$37.59	$13.32	--	--	None	--
UPPER COLUMBIA/PRIEST RAPIDS	1702001605	Middle Columbia/Priest Rapids	H	H		$32,679	$25,879	$40.31	$31.08	--	--	None	--
UPPER COLUMBIA/PRIEST RAPIDS	1702001606	Columbia River/Zintel Canyon	H	H		$520,628	$170,245	$6.58	$2.29	--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010101	Upper Lake Wallula		H		$943,445		$32.91		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010102	Lower Lake Wallula		H		$4,080		$31.64		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010106	Upper Lake Umatilla		H		$5,440		$3.20		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010109	Middle Lake Umatilla		H		$36,429		$11.96		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010114	Lower Lake Umatilla		H		$294,327		$571.54		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010501	Upper Middle Columbia/Hood		H		$320,406		$312.71		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010504	Middle Columbia/Mill Creek		H		$147,910		$11.42		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010512	Middle Columbia/Grays Creek		H		$13,600		$5.56		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010513	Middle Columbia/Eagle Creek		H		$5,440		$11.09		--	--	None	--
LOWER COLUMBIA/SANDY	1708000107	Columbia Gorge Tributaries		H		$495,915		$58.47		--	--	None	--
Lower Columbia Corridor (Sandy/Washougal to Ocean)				H		$2,395,331		$693.32		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$26,708,715
Total reduction in economic impact of exclusions	$6,032,148
Total economic impact of areas designated for critical habitat	$20,676,567
Percent reduction in economic impact due to economic exclusions	22.6%
Percent reduction in miles designated as critical habitat due to economic exclusions	0.5%

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).

** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that exclusion would significantly impede conservation, noting that steelhead cannot rely on habitat in the mainstem Okanogan year-round due to degraded conditions. These degraded conditions make tributary habitats especially important to support juvenile rearing. This area of the Okanogan also provides important tributary rearing habitat for juveniles from all upstream areas.

[b] CHART concluded that exclusion would significantly impede conservation, noting that steelhead cannot rely on habitat in the mainstem Okanogan year-round due to degraded conditions. These degraded conditions make tributary habitats especially important to support juvenile rearing. This area of the Okanogan provides important tributary rearing habitat for juveniles from all upstream areas.

[c] CHART concluded that exclusion would significantly impede conservation, noting that the limited remaining tributary habitats (e.g., Loup Loup Creek) are crucial for this population especially in light of deteriorated mainstem conditions.

[d] CHART concluded that exclusion would significantly impede conservation, noting that Icicle Creek has good steelhead spawning habitat in the headwaters and is an important focus of current recovery efforts.

[e] CHART concluded that exclusion would significantly impede conservation, noting that this watershed contains 24 miles of spawning habitat with significant potential use for conservation and recovery. Steelhead in this area may also exhibit life-history traits uniquely adapted to high temperatures.

Table D.9. Snake River Basin steelhead ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Snake River Basin steelhead Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
UPPER COLUMBIA/PRIEST RAPIDS	1702001606	Columbia River/Zintel Canyon		H		$350,384		$6.07		--	--	None	--
HELLS CANYON	1706010101	Snake River/Granite Creek	H			$37,326		$22.41		--	--	None	--
HELLS CANYON	1706010102	Snake River/Getta Creek	H	H		$75,011	$75,011	$94.63	$94.63	--	--	None	--
HELLS CANYON	1706010104	Snake River/Divide Creek	H	H		$35,624	$35,624	$594.67	$594.67	--	--	None	--
IMNAHA RIVER	1706010201	Upper Imnaha River	H			$194,541		$330.30		--	--	None	--
IMNAHA RIVER	1706010202	Middle Imnaha River	H	H		$296,631	$296,631	$3.60	$3.60	--	--	None	--
IMNAHA RIVER	1706010203	Big Sheep Creek	H			$250,295		$0.00		--	--	None	--
IMNAHA RIVER	1706010204	Little Sheep Creek	H	H		$114,822	$114,822	$0.50	$0.50	--	--	None	--
IMNAHA RIVER	1706010205	Lower Imnaha River	H	H		$445,278	$445,278	$0.00	$0.00	--	--	None	--
LOWER SNAKE/ASOTIN	1706010301	Snake River/Rogersburg	H	H		$815,613	$158,813	$328,400.00	$0.00	--	--	None	--
LOWER SNAKE/ASOTIN	1706010302	Asotin River	H			$393,274		$2.63		--	--	None	--
LOWER SNAKE/ASOTIN	1706010303	Snake River/Captain John Creek	H	H		$1,238,209	$89,509	$39.25	$2.71	--	--	None	--
UPPER GRANDE RONDE RIVER	1706010401	Upper Grande Ronde River	H			$409,859		$0.00		--	--	None	--
UPPER GRANDE RONDE RIVER	1706010402	Meadow Creek	H			$408,086		$3,656.03		--	--	None	--
UPPER GRANDE RONDE RIVER	1706010403	Grande Ronde River/Beaver Creek	H	H		$232,379	$232,379	$203.89	$203.89	--	--	None	--
UPPER GRANDE RONDE RIVER	1706010404	Grande Ronde River/Five Points Creek	H	H		$149,887	$149,887	$4.78	$4.78	--	--	None	--
UPPER GRANDE RONDE RIVER	1706010405	Catherine Creek	H			$142,178		$9.60		--	--	None	--
UPPER GRANDE RONDE RIVER	1706010406	Ladd Creek	M	H		$78,425	$60,827	$2.90	$1.61	--	--	None	--
UPPER GRANDE RONDE RIVER	1706010407	Grande Ronde River/Mill Creek	M	H		$146,617	$136,015	$33.82	$33.82	--	--	None	--
UPPER GRANDE RONDE RIVER	1706010408	Phillips Creek/Willow Creek	H			$91,902		$19.44		--	--	None	--
UPPER GRANDE RONDE RIVER	1706010409	Grande Ronde River/Indian Creek	H	H		$144,147	$115,355	$54.17	$33.70	--	--	None	--
UPPER GRANDE RONDE RIVER	1706010410	Lookingglass Creek	H			$317,309		$867.89		--	--	None	--
UPPER GRANDE RONDE RIVER	1706010411	Grande Ronde River/Cabin Creek	H	H		$205,805	$169,376	$18.98	$2.49	--	--	None	--
WALLOWA RIVER	1706010501	Upper Wallowa River	H			$62,521		$4.65		--	--	None	--
WALLOWA RIVER	1706010502	Lostine River	H			$69,521		$123.73		--	--	None	--
WALLOWA RIVER	1706010503	Middle Wallowa River	M	H		$4,805	$3,445	$2.61	$1.61	--	--	None	--
WALLOWA RIVER	1706010504	Bear Creek	H			$55,985		$64.23		--	--	None	--
WALLOWA RIVER	1706010505	Minam River	H			$41,010		$0.00		--	--	None	--
WALLOWA RIVER	1706010506	Lower Wallowa River	H	H		$44,260	$42,900	$10.33	$4.81	--	--	None	--
LOWER GRANDE RONDE	1706010601	Grande Ronde River/Rondowa	H	H		$328,090	$328,090	$0.00	$0.00	--	--	None	--
LOWER GRANDE RONDE	1706010602	Grande Ronde River/Mud Creek	H	H		$261,899	$261,899	$215.07	$215.07	--	--	None	--
LOWER GRANDE RONDE	1706010603	Wenaha River	H			$150,555		$0.00		--	--	None	--
LOWER GRANDE RONDE	1706010604	Chesnimnus Creek	H			$240,500		$0.00		--	--	None	--
LOWER GRANDE RONDE	1706010605	Upper Joseph Creek	H	H		$243,223	$232,620	$0.00	$0.00	--	--	None	--
LOWER GRANDE RONDE	1706010606	Lower Joseph Creek	H	H		$192,245	$192,245	$0.00	$0.00	--	--	None	--
LOWER GRANDE RONDE	1706010607	Lower Grande Ronde River/Menatchee Creek	H	H		$147,740	$147,740	$51.20	$51.20	--	--	None	--
LOWER SNAKE/TUCANNON	1706010701	Alpowa Creek	M			$1,429		$7.27		--	--	None	--
LOWER SNAKE/TUCANNON	1706010702	Snake River/Steptoe Canyon	L	H	Yes	$466,958	$32	$41.53	$0.00	--	--	None	--
LOWER SNAKE/TUCANNON	1706010703	Deadman Creek	L			$9,995		$37.02		--	--	None	--
LOWER SNAKE/TUCANNON	1706010704	Flat Creek	L		Yes	$18,559		$91.42		Yes	--	Entire Watershed	$18,559
LOWER SNAKE/TUCANNON	1706010705	Pataha Creek	L		Yes	$75,486		$0.78		Yes	--	Entire Watershed	$75,486
LOWER SNAKE/TUCANNON	1706010706	Upper Tucannon River	H			$349,325		$93.99		--	--	None	--
LOWER SNAKE/TUCANNON	1706010707	Lower Tucannon River	H	H		$1,952	$592	$10.84	$3.29	--	--	None	--
LOWER SNAKE/TUCANNON	1706010708	Snake River/Penawawa Creek	M	H		$98,132	$15,022	$220.98	$5.11	--	--	None	--
PALOUSE RIVER	1706010808	Lower Palouse River	L		Yes	$1,360		$2.35		Yes	--	Entire Watershed	$1,360
LOWER SNAKE RIVER	1706011001	Snake River/Walker Creek		H		$95,375		$475.30		--	--	None	--
LOWER SNAKE RIVER	1706011003	Snake River/Mc Coy Creek		H		$122,625		$120.94		--	--	None	--
LOWER SNAKE RIVER	1706011004	Mouth Of Snake River		H		$16,238		$30.03		--	--	None	--
UPPER SALMON	1706020101	Salmon River/Challis	H	H		$298,802	$90,924	$226.05	$11.07	--	--	None	--
UPPER SALMON	1706020104	Salmon River/Bayhorse Creek	H	H		$134,718	$102,018	$172.10	$8.60	--	--	None	--
UPPER SALMON	1706020105	East Fork Salmon River/McDonald Creek	H	H		$290,222	$61,322	$2,092.35	$11.44	--	--	None	--
UPPER SALMON	1706020107	Road Creek	L			$31,062		$2,180.00		Yes	--	Entire Watershed	$31,062
UPPER SALMON	1706020108	Herd Creek	H			$170,268		$29,066.67		--	--	None	--
UPPER SALMON	1706020109	East Fork Salmon River/Big Boulder Creek	H	H		$139,283	$30,283	$9,909.09	$0.00	--	--	None	--
UPPER SALMON	1706020110	Upper East Fork Salmon River	H			$57,073		$0.00		--	--	None	--
UPPER SALMON	1706020111	Germania Creek	H			$7,754		$0.00		--	--	None	--
UPPER SALMON	1706020112	Salmon River/Kinnikinic Creek	M	H		$83,235	$50,535	$965.82	$239.15	--	--	None	--
UPPER SALMON	1706020113	Salmon River/Slate Creek	M	H		$352,219	$145,419	$3,218.27	$305.59	--	Yes	None[a]	--
UPPER SALMON	1706020114	Warm Springs Creek	H			$496,761		$49,260.00		--	--	None	--
UPPER SALMON	1706020115	Salmon River/Big Casino Creek	H	H		$210,187	$51,487	$6,617.67	$5.17	--	--	None	--
UPPER SALMON	1706020117	Salmon River/Fisher Creek	H	H		$114,575	$60,075	$2,278.74	$675.80	--	--	None	--
UPPER SALMON	1706020118	Salmon River/Fourth of July Creek	H	H		$83,005	$17,605	$0.00	$0.00	--	--	None	--
UPPER SALMON	1706020119	Upper Salmon River	H			$241,233		$5,883.23		--	--	None	--
UPPER SALMON	1706020120	Alturas Lake Creek	H			$132,186		$0.00		--	--	None	--
UPPER SALMON	1706020121	Redfish Lake Creek	H			$11,223		$0.00		--	--	None	--
UPPER SALMON	1706020122	Valley Creek/Iron Creek	H	H		$105,038	$43,840	$466.77	$20.07	--	--	None	--
UPPER SALMON	1706020123	Upper Valley Creek	H			$73,461		$0.00		--	--	None	--
UPPER SALMON	1706020124	Basin Creek	H			$67,294		$4,360.00		--	--	None	--

UPPER SALMON	1706020125	Yankee Fork/Jordan Creek	M	H		$436,720	$393,120	$0.00	$0.00	--	Yes	None[b]	--
UPPER SALMON	1706020126	West Fork Yankee Fork	H			$44,386		$0.00		--	--	None	--
UPPER SALMON	1706020127	Upper Yankee Fork	H			$40,193		$0.00		--	--	None	--
UPPER SALMON	1706020128	Squaw Creek	M			$285,761		$4,286.10		Yes	--	None[c]	--
UPPER SALMON	1706020129	Garden Creek	M			$112,490		$108.87		--	--	None	--
UPPER SALMON	1706020130	Challis Creek/Mill Creek	M			$52,523		$3.36		--	--	None	--
UPPER SALMON	1706020132	Morgan Creek	H			$113,134		$2,953.14		--	--	None	--
PAHSIMEROI	1706020201	Lower Pahsimeroi River	H	H		$105,463	$94,563	$133.35	$58.69	--	--	None	--
PAHSIMEROI	1706020202	Pahsimeroi River/Falls Creek	M	M		$138,762	$138,762	$119.08	$119.08	Yes	--	Entire Watershed	$138,762
PAHSIMEROI	1706020203	Paterson Creek	M			$45,221		$165.99		--	--	None	--
MIDDLE SALMON-PANTHER	1706020301	Salmon River/Colson Creek	H	H		$81,974	$27,474	$7,953.24	$167.52	--	--	None	--
MIDDLE SALMON-PANTHER	1706020302	Owl Creek	M			$40,623		$0.00		--	--	None	--
MIDDLE SALMON-PANTHER	1706020303	Salmon River/Pine Creek	H	H		$127,904	$106,104	$2,209.62	$29.62	--	--	None	--
MIDDLE SALMON-PANTHER	1706020304	Indian Creek	H			$105,366		$20,200.00		--	--	None	--
MIDDLE SALMON-PANTHER	1706020305	Salmon River/Moose Creek	H	H		$256,960	$126,160	$730.66	$42.24	--	--	None	--
MIDDLE SALMON-PANTHER	1706020306	North Fork Salmon River	H			$188,826		$7.97		--	--	None	--
MIDDLE SALMON-PANTHER	1706020307	Salmon River/Tower Creek	H	H		$47,632	$37,030	$3.70	$3.70	--	--	None	--
MIDDLE SALMON-PANTHER	1706020308	Carmen Creek	H			$70,083		$110.31		--	--	None	--
MIDDLE SALMON-PANTHER	1706020309	Salmon River/Jesse Creek	H	H		$114,300	$99,422	$18.96	$14.58	--	--	None	--
MIDDLE SALMON-PANTHER	1706020310	Salmon River/Williams Creek	M	H		$76,770	$76,770	$36.80	$36.80	--	--	None	--
MIDDLE SALMON-PANTHER	1706020311	Salmon River/Twelvemile Creek	H	H		$88,278	$77,675	$60.51	$60.51	--	--	None	--
MIDDLE SALMON-PANTHER	1706020312	Salmon River/Cow Creek	H	H		$120,289	$120,289	$56.12	$56.12	--	--	None	--
MIDDLE SALMON-PANTHER	1706020313	Hat Creek	M			$60,722		$0.00		--	--	None	--
MIDDLE SALMON-PANTHER	1706020314	Iron Creek	H			$61,331		$7,689.16		--	--	None	--
MIDDLE SALMON-PANTHER	1706020315	Upper Panther Creek	H			$55,326		$0.00		--	--	None	--
MIDDLE SALMON-PANTHER	1706020316	Moyer Creek	H			$35,203		$0.00		--	--	None	--
MIDDLE SALMON-PANTHER	1706020317	Panther Creek/Woodtick Creek	H	H		$81,200	$79,840	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-PANTHER	1706020318	Deep Creek	H			$30,344		$0.00		--	--	None	--
MIDDLE SALMON-PANTHER	1706020319	Napias Creek	M			$90,469		$21,205.00		Yes	--	Entire Watershed	$90,469
MIDDLE SALMON-PANTHER	1706020320	Panther Creek/Spring Creek	H	H		$36,041	$36,041	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-PANTHER	1706020321	Big Deer Creek	L			$22,890		$0.00		--	--	None	--
MIDDLE SALMON-PANTHER	1706020322	Panther Creek/Trail Creek	M	H		$135,274	$58,974	$16,290.32	$1,030.32	--	Yes	None[d]	--
MIDDLE SALMON-PANTHER	1706020323	Clear Creek	M			$2,445		$0.00		--	--	None	--
LEMHI	1706020401	Lemhi River/Bohannon Creek	H	H		$66,109	$66,109	$15.54	$15.54	--	--	None	--
LEMHI	1706020402	Lemhi River/Whimpey Creek	H	H		$180,779	$170,177	$255.28	$255.28	--	--	None	--
LEMHI	1706020403	Lemhi River/Kenney Creek	H	H		$56,421	$56,421	$1.54	$1.54	--	--	None	--
LEMHI	1706020404	Agency Creek	M			$35,170		$519.46		Yes	--	Entire Watershed	$35,170
LEMHI	1706020405	Lemhi River/McDevitt Creek	H	H		$38,190	$38,190	$11.65	$11.65	--	--	None	--
LEMHI	1706020406	Lemhi River/Yearian Creek	H	H		$66,286	$66,286	$248.53	$248.53	--	--	None	--
LEMHI	1706020407	Peterson Creek	H	H		$51,484	$51,484	$207.89	$207.89	--	--	None	--
LEMHI	1706020408	Big Eight Mile Creek	H	H		$61,028	$61,028	$2.48	$2.48	--	--	None	--
LEMHI	1706020409	Canyon Creek	H	H		$53,621	$53,621	$0.00	$0.00	--	--	None	--
LEMHI	1706020412	Texas Creek	H			$55,061		$0.00		--	--	None	--
LEMHI	1706020414	Hayden Creek	H			$108,414		$2.04		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020501	Lower Loon Creek	H	H		$17,129	$17,129	$0.00	$0.00	--	--	None	--
UPPER MIDDLE FORK SALMON	1706020502	Warm Springs	H			$10,160		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020503	Upper Loon Creek	H			$21,745		$27.23		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020504	Little Loon Creek	H			$1,953		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020505	Rapid River	H			$45,355		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020506	Marsh Creek	H			$101,392		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020507	Middle Fork Salmon River/Soldier Creek	H	H		$17,169	$17,169	$0.00	$0.00	--	--	None	--
UPPER MIDDLE FORK SALMON	1706020508	Bear Valley Creek	H			$114,760		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020509	Sulphur Creek	H			$22,927		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020510	Pistol Creek	H			$11,201		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020511	Indian Creek	H			$7,124		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020512	Upper Marble Creek	H			$7,045		$0.00		--	--	None	--
UPPER MIDDLE FORK SALMON	1706020513	Middle Fork Salmon River/Lower Marble Creek	H	H		$5,490	$5,490	$0.00	$0.00	--	--	None	--
LOWER MIDDLE FORK SALMON	1706020601	Lower Middle Fork Salmon River	H	H		$6,956	$6,956	$0.00	$0.00	--	--	None	--
LOWER MIDDLE FORK SALMON	1706020602	Wilson Creek	H			$1,726		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020603	Middle Fork Salmon River/Brush Creek	H	H		$3,994	$3,994	$0.00	$0.00	--	--	None	--
LOWER MIDDLE FORK SALMON	1706020604	Yellow Jacket Creek	H			$88,239		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020605	Silver Creek	H			$86,355		$14,335.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020606	Upper Camas Creek	H			$51,065		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020607	West Fork Camas Creek	H			$2,447		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020608	Lower Camas Creek	H	H		$41,526	$19,726	$0.00	$0.00	--	--	None	--
LOWER MIDDLE FORK SALMON	1706020609	Middle Fork Salmon River/Sheep Creek	H	H		$4,725	$4,725	$0.00	$0.00	--	--	None	--
LOWER MIDDLE FORK SALMON	1706020610	Rush Creek	H			$14,903		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020611	Monumental Creek	H			$14,864		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020612	Big Creek/Little Marble Creek	H	H		$2,707	$2,707	$0.00	$0.00	--	--	None	--
LOWER MIDDLE FORK SALMON	1706020613	Upper Big Creek	H			$80,898		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020614	Beaver Creek	H			$2,849		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020615	Big Ramey Creek	H			$1,508		$0.00		--	--	None	--
LOWER MIDDLE FORK SALMON	1706020616	Big Creek/Crooked Creek	H	H		$4,714	$4,714	$0.00	$0.00	--	--	None	--
LOWER MIDDLE FORK SALMON	1706020617	Lower Big Creek	H	H		$47,275	$3,675	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020701	Salmon River/Fall Creek	M	H		$67,940	$35,240	$16,350.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020702	Wind River	L			$17,909		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020703	Salmon River/California Creek	H	H		$56,551	$34,751	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020704	Sheep Creek	H			$6,030		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020705	Crooked Creek	H			$55,082		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020706	Salmon River/Rabbit Creek	M	H		$29,146	$29,146	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020707	Big Mallard Creek	L			$45,803		$0.00		Yes	--	Entire Watershed	$45,803

MIDDLE SALMON-CHAMBERLAIN	1706020708	Salmon River/Trout Creek	H	H		$62,780	$62,780	$6.72	$6.72	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020709	Bargamin Creek	H			$41,114		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020710	Salmon River/Rattlesnake Creek	M	H		$2,541	$2,541	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020711	Sabe Creek	H			$9,254		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020712	Salmon River/Hot Springs Creek	H	H		$2,821	$2,821	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020713	Salmon River/Disappointment Creek	H	H		$3,918	$3,918	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020714	Horse Creek	H			$25,282		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020715	Salmon River/Kitchen Creek	H	H		$21,439	$21,439	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020716	Cottonwood Creek	H			$2,726		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020717	Lower Chamberlain/McCalla Creek	H	H		$4,177	$4,177	$0.00	$0.00	--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020718	Upper Chamberlain Creek	H			$6,372		$0.00		--	--	None	--
MIDDLE SALMON-CHAMBERLAIN	1706020719	Warren Creek	H			$81,856		$340.01		--	--	None	--
SOUTH FORK SALMON	1706020801	Lower South Fork Salmon River	H	H		$75,378	$64,776	$0.00	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020802	South Fork Salmon River/Sheep Creek	H	H		$106,404	$106,404	$0.00	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020803	Lower East Fork South Fork Salmon River	H	H		$70,715	$60,112	$0.00	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020804	Upper East Fork South Fork Salmon River	H			$108,583		$419.23		--	--	None	--
SOUTH FORK SALMON	1706020805	Lower Johnson Creek	H	H		$83,337	$62,132	$79.08	$79.08	--	--	None	--
SOUTH FORK SALMON	1706020806	Burntlog Creek	H			$30,942		$0.00		--	--	None	--
SOUTH FORK SALMON	1706020807	Upper Johnson Creek	H			$114,688		$0.00		--	--	None	--
SOUTH FORK SALMON	1706020808	Upper South Fork Salmon River	H			$151,950		$0.00		--	--	None	--
SOUTH FORK SALMON	1706020809	South Fork Salmon River/Cabin Creek	H	H		$57,506	$57,506	$0.00	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020810	South Fork Salmon River/Blackmare Creek	H	H		$103,735	$81,935	$5,450.00	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020811	Buckhorn Creek	H			$39,215		$0.00		--	--	None	--
SOUTH FORK SALMON	1706020812	South Fork Salmon River/Fitsum Creek	H	H		$40,926	$40,926	$0.00	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020813	Lower Secesh River	H	H		$102,721	$92,119	$0.00	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020814	Middle Secesh River	H	H		$80,221	$69,321	$838.46	$0.00	--	--	None	--
SOUTH FORK SALMON	1706020815	Upper Secesh River	H			$38,022		$0.00		--	--	None	--
LOWER SALMON	1706020901	Salmon River/China Creek	H	H		$6,166	$6,166	$0.00	$0.00	--	--	None	--
LOWER SALMON	1706020902	Eagle Creek	H			$1,645		$0.00		--	--	None	--
LOWER SALMON	1706020903	Deer Creek	M			$88		$0.00		--	--	None	--
LOWER SALMON	1706020904	Salmon River/Cottonwood Creek	H	H		$2,756	$2,756	$0.00	$0.00	--	--	None	--
LOWER SALMON	1706020905	Salmon River/Deep Creek	H	H		$13,748	$3,145	$0.00	$0.00	--	--	None	--
LOWER SALMON	1706020906	Rock Creek	M			$13,313		$2.17		--	--	None	--
LOWER SALMON	1706020907	Salmon River/Hammer Creek	H	H		$60,440	$5,940	$545.00	$0.00	--	--	None	--
LOWER SALMON	1706020908	White Bird Creek	H			$63,925		$46.64		--	--	None	--
LOWER SALMON	1706020909	Salmon River/McKinzie Creek	H	H		$21,075	$21,075	$0.00	$0.00	--	--	None	--
LOWER SALMON	1706020910	Skookumchuck Creek	H			$19,011		$0.00		--	--	None	--
LOWER SALMON	1706020911	Slate Creek	H			$149,288		$1,705.84		--	--	None	--
LOWER SALMON	1706020912	Salmon River/John Day Creek	H	H		$193,644	$96,437	$213.03	$0.00	--	--	None	--
LOWER SALMON	1706020913	Salmon River/Lake Creek	H	H		$148,072	$82,969	$155.71	$0.00	--	--	None	--
LOWER SALMON	1706020914	Salmon River/Van Creek	M			$26,027		$0.00		--	--	None	--
LOWER SALMON	1706020915	French Creek	H			$47,712		$0.00		--	--	None	--
LOWER SALMON	1706020916	Partridge Creek	M			$54,829		$0.00		--	--	None	--
LOWER SALMON	1706020917	Rice Creek	M			$11,130		$1,178.06		Yes	--	Entire Watershed	$11,130
LITTLE SALMON	1706021001	Lower Little Salmon River	M	H		$303,889	$75,881	$366.73	$0.00	--	--	None	--
LITTLE SALMON	1706021002	Little Salmon River/Hard Creek	M	M		$146,252	$80,852	$894.15	$124.74	Yes	--	None[e]	--
LITTLE SALMON	1706021003	Hazard Creek	M			$33,169		$0.00		--	--	None	--
LITTLE SALMON	1706021006	Boulder Creek	H			$64,555		$454.17		--	--	None	--
LITTLE SALMON	1706021007	Rapid River	H			$94,905		$0.00		--	--	None	--
UPPER SELWAY	1706030101	Selway River/Pettibone Creek	H	H		$5,085	$5,085	$0.00	$0.00	--	--	None	--
UPPER SELWAY	1706030102	Bear Creek	H			$19,089		$0.00		--	--	None	--
UPPER SELWAY	1706030103	Selway River/Gardner Creek	H	H		$20,962	$20,962	$0.00	$0.00	--	--	None	--
UPPER SELWAY	1706030104	White Cap Creek	H			$6,190		$0.00		--	--	None	--
UPPER SELWAY	1706030105	Indian Creek	H			$2,680		$0.00		--	--	None	--
UPPER SELWAY	1706030106	Upper Selway River	H			$27,342		$0.00		--	--	None	--
UPPER SELWAY	1706030107	Little Clearwater River	H			$10,615		$0.00		--	--	None	--
UPPER SELWAY	1706030108	Running Creek	H			$41,560		$0.00		--	--	None	--
UPPER SELWAY	1706030109	Goat Creek	H			$1,455		$0.00		--	--	None	--
LOWER SELWAY	1706030201	Selway River/Goddard Creek	H	H		$89,066	$89,066	$0.00	$0.00	--	--	None	--
LOWER SELWAY	1706030202	Gedney Creek	H			$24,622		$0.00		--	--	None	--
LOWER SELWAY	1706030203	Selway River/Three Links Creek	H	H		$8,080	$8,080	$0.00	$0.00	--	--	None	--
LOWER SELWAY	1706030204	Upper Three Links Creek	H			$1,223		$0.00		--	--	None	--
LOWER SELWAY	1706030205	Rhoda Creek	H			$2,590		$0.00		--	--	None	--
LOWER SELWAY	1706030207	North Fork Moose Creek	H	H		$4,585	$4,585	$0.00	$0.00	--	--	None	--
LOWER SELWAY	1706030208	East Fork Moose Creek/Trout Creek	H	H		$5,133	$5,133	$0.00	$0.00	--	--	None	--
LOWER SELWAY	1706030209	Upper East Fork Moose Creek	H			$5,741		$0.00		--	--	None	--
LOWER SELWAY	1706030210	Marten Creek	H			$1,508		$0.00		--	--	None	--
LOWER SELWAY	1706030211	Upper Meadow Creek	H			$55,705		$0.00		--	--	None	--
LOWER SELWAY	1706030212	Middle Meadow Creek	H	H		$54,800	$54,800	$0.00	$0.00	--	--	None	--
LOWER SELWAY	1706030213	Lower Meadow Creek	H	H		$90,035	$90,035	$0.00	$0.00	--	--	None	--
LOWER SELWAY	1706030214	O'Hara Creek	H			$47,109		$0.00		--	--	None	--
LOCHSA	1706030301	Lower Lochsa River	H	H		$163,900	$147,559	$398.54	$0.00	--	--	None	--
LOCHSA	1706030302	Fish Creek	H			$70,333		$0.00		--	--	None	--
LOCHSA	1706030303	Lochsa River/Stanley Creek	H	H		$153,194	$98,694	$0.00	$0.00	--	--	None	--
LOCHSA	1706030304	Lochsa River/Squaw Creek	H	H		$138,697	$105,997	$860.53	$0.00	--	--	None	--
LOCHSA	1706030305	Lower Crooked Fork	H	H		$12,470	$12,470	$0.00	$0.00	--	--	None	--
LOCHSA	1706030306	Upper Crooked Fork	H			$58,526		$0.00		--	--	None	--
LOCHSA	1706030307	Brushy Fork	H			$115,399		$0.00		--	--	None	--
LOCHSA	1706030308	Lower White Sands Creek	H	H		$61,161	$39,361	$0.00	$0.00	--	--	None	--
LOCHSA	1706030309	Storm Creek	H			$7,132		$0.00		--	--	None	--
LOCHSA	1706030310	Upper White Sands Creek	H			$40,078		$0.00		--	--	None	--

LOCHSA	1706030311	Warm Springs Creek	H			$14,854		$0.00		--	--	None	--
LOCHSA	1706030312	Fish Lake Creek	H			$8,349		$0.00		--	--	None	--
LOCHSA	1706030313	Boulder Creek	H			$5,063		$0.00		--	--	None	--
LOCHSA	1706030314	Old Man Creek	H			$2,705		$0.00		--	--	None	--
MIDDLE FORK CLEARWATER	1706030401	Middle Fork Clearwater River/Maggie Creek	H	H		$66,681	$33,981	$40.37	$1.49	--	--	None	--
MIDDLE FORK CLEARWATER	1706030402	Clear Creek	H			$61,905		$1.15		--	--	None	--
SOUTH FORK CLEARWATER	1706030501	Lower South Fork Clearwater River	M	H		$99,776	$64,654	$15.20	$4.73	--	--	None	--
SOUTH FORK CLEARWATER	1706030502	South Fork Clearwater River/Meadow Creek	H	H		$58,467	$36,667	$21,800.00	$0.00	--	--	None	--
SOUTH FORK CLEARWATER	1706030503	South Fork Clearwater River/Peasley Creek	L	H		$64,621	$64,621	$0.00	$0.00	--	Yes	Tributaries Only	$64,621
SOUTH FORK CLEARWATER	1706030504	South Fork Clearwater River/Leggett Creek	M	H		$65,877	$65,877	$0.00	$0.00	--	--	None	--
SOUTH FORK CLEARWATER	1706030505	Newsome Creek	H			$73,494		$0.00		--	--	None	--
SOUTH FORK CLEARWATER	1706030506	American River	H			$74,376		$3.35		--	--	None	--
SOUTH FORK CLEARWATER	1706030507	Red River	H			$190,520		$2,076.19		--	--	None	--
SOUTH FORK CLEARWATER	1706030508	Crooked River	H			$61,074		$0.00		--	--	None	--
SOUTH FORK CLEARWATER	1706030509	Ten Mile Creek	H			$37,236		$0.00		--	--	None	--
SOUTH FORK CLEARWATER	1706030510	John's Creek	H			$43,237		$0.00		--	--	None	--
SOUTH FORK CLEARWATER	1706030511	Mill Creek	H			$31,729		$0.00		--	--	None	--
SOUTH FORK CLEARWATER	1706030512	Three Mile Creek	L			$57,788		$18.24		Yes	--	Entire Watershed	$57,788
SOUTH FORK CLEARWATER	1706030513	Cottonwood Creek	M			$8,718		$0.47		--	--	None	--
CLEARWATER	1706030601	Lower Clearwater River	L	H		$358,256	$137,760	$36.14	$13.38	--	Yes	Tributaries Only	$137,760
CLEARWATER	1706030602	Clearwater River/Lower Potlatch River	M	H		$16,207	$5,307	$36.98	$11.93	--	--	None	--
CLEARWATER	1706030603	Potlatch River/Middle Potlatch Creek	M	H		$68,418	$298	$36.98	$0.12	--	--	None	--
CLEARWATER	1706030604	Lower Big Bear Creek	M			$39,753		$23.99		--	--	None	--
CLEARWATER	1706030605	Upper Big Bear Creek	M			$8,351		$7.55		--	--	None	--
CLEARWATER	1706030606	Potlatch River/Pine Creek	H	H		$38,538	$5,838	$37.56	$5.50	--	--	None	--
CLEARWATER	1706030607	Upper Potlatch River	H			$48,904		$39.26		--	--	None	--
CLEARWATER	1706030608	Clearwater River/Bedrock Creek	H	H		$26,817	$5,017	$44.77	$8.38	--	--	None	--
CLEARWATER	1706030609	Clearwater River/Jack's Creek	H	H		$65,800	$400	$178.81	$1.09	--	--	None	--
CLEARWATER	1706030610	Big Canyon Creek	H			$68,074		$108.57		--	--	None	--
CLEARWATER	1706030611	Little Canyon Creek	H			$14,979		$18.89		--	--	None	--
CLEARWATER	1706030612	Clearwater River/Lower Orofino Creek	L	H		$112,712	$30,972	$19.47	$3.59	--	--	None	--
CLEARWATER	1706030613	Upper Orofino Creek	L		Yes	$47,651		$18.12		Yes	--	Entire Watershed	$47,651
CLEARWATER	1706030614	Jim Ford Creek	M			$122,944		$92.49		Yes	--	None[f]	--
CLEARWATER	1706030615	Lower Lolo Creek	H	H		$29,971	$8,171	$91.98	$0.00	--	--	None	--
CLEARWATER	1706030616	Middle Lolo Creek	H	H		$19,695	$19,695	$0.00	$0.00	--	--	None	--
CLEARWATER	1706030617	Musselshell Creek	H			$50,335		$2,972.73		--	--	None	--
CLEARWATER	1706030618	Upper Lolo Creek	H			$376,953		$0.00		--	--	None	--
CLEARWATER	1706030619	Eldorado Creek	H			$35,477		$0.00		--	--	None	--
CLEARWATER	1706030620	Clearwater River/Fivemile Creek	M	H		$88,456	$12,156	$172.64	$0.02	--	--	None	--
CLEARWATER	1706030621	Clearwater River/Sixmile Creek	M	H		$24,062	$2,262	$69.14	$6.50	--	--	None	--
CLEARWATER	1706030622	Clearwater River/Tom Taha Creek	M	H		$51,727	$19,027	$20.41	$3.43	--	--	None	--
CLEARWATER	1706030623	Lower Lawyer Creek	H	H		$6,937	$2,857	$4.75	$1.96	--	--	None	--
CLEARWATER	1706030624	Middle Lawyer Creek	H			$281		$1.02		--	--	None	--
CLEARWATER	1706030627	Cottonwood Creek	M			$2,453		$7.34		--	--	None	--
CLEARWATER	1706030628	Upper Lapwai Creek	H			$64,746		$52.00		--	--	None	--
CLEARWATER	1706030629	Mission Creek	H			$43,699		$179.83		--	--	None	--
CLEARWATER	1706030630	Upper Sweetwater Creek	M			$116,925		$1,025.66		Yes	--	None[g]	--
CLEARWATER	1706030631	Lower Sweetwater Creek	H	H		$33,025	$5,785	$16.75	$2.93	--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010101	Upper Lake Wallula		H		$943,445		$32.91		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010102	Lower Lake Wallula		H		$4,080		$31.64		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010106	Upper Lake Umatilla		H		$5,440		$3.20		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010109	Middle Lake Umatilla		H		$36,429		$11.96		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010114	Lower Lake Umatilla		H		$294,327		$571.54		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010501	Upper Middle Columbia/Hood		H		$320,406		$312.71		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010504	Middle Columbia/Mill Creek		H		$147,910		$11.42		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010512	Middle Columbia/Grays Creek		H		$13,600		$5.56		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010513	Middle Columbia/Eagle Creek		H		$5,440		$11.09		--	--	None	--
LOWER COLUMBIA/SANDY	1708000107	Columbia Gorge Tributaries		H		$495,915		$58.47		--	--	None	--
Lower Columbia Corridor (Sandy/Washougal to Ocean)				H		$2,395,331		$693.32		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$29,930,383
Total reduction in economic impact of exclusions	$755,621
Total economic impact of areas designated for critical habitat	$29,174,762
Percent reduction in economic impact due to economic exclusions	2.5%
Percent reduction in miles designated as critical habitat due to economic exclusions	1.6%

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).

** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 (or >$400 if an ID HUC5) in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that exclusion would significantly impede conservation, noting that Thompson Creek is a very large stream with a good amount of steelhead habitat. The mine that caused much of the habitat degradation is in remediation. Slate Creek is also a large stream and very important as a thermal refugium.

[b] CHART concluded that exclusion would significantly impede conservation, noting that, notwithstanding considerable past degradation from mining (e.g., the Hecla-Grouse Creek Mine in upper Jordan Creek is in remediation), the Yankee Fork supports good steelhead production and there are several miles of rearing habitat. Tributaries provide important thermal refugia and the area is also the site of numerous restoration efforts by the Shoshone-Bannock Tribes.

[c] CHART concluded that exclusion would significantly impede conservation, noting that Squaw Creek is a very large stream with a good amount of steelhead habitat and is very important for thermal refugia. The Thompson Creek mine that caused much of the habitat degradation is in remediation.

[d] CHART concluded that exclusion would significantly impede conservation, noting relatively extensive tributary habitat for this population and substantial restoration activities underway (e.g., streamside incubators established in two tributaries).

[e] CHART concluded that exclusion would significantly impede conservation, noting that habitat is limiting in the Little Salmon River and this watershed maintains connectivity of rearing and migration habitats for both upstream and downstream watersheds and is a major source of cold water for the Little Salmon River basin.

[f] CHART concluded that exclusion would significantly impede conservation, noting good habitat quality and that substantial restoration activities are underway here (e.g., by Nez Perce Tribe).

[g] CHART concluded that exclusion would significantly impede conservation, noting that Sweetwater Creek provides the best spawning and rearing habitat in Lapwai Creek for A-run steelhead. Also, Lapwai Creek is one of the few remaining watersheds still producing A-run steelhead.

Table D.10. Middle Columbia River steelhead ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Middle Columbia River steelhead Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
UPPER COLUMBIA/PRIEST RAPIDS	1702001606	Columbia River/Zintel Canyon	H	H		$482,934	$132,550	$6.07	$1.78	--	--	None	--
UPPER YAKIMA	1703000101	Upper Yakima River	H			$2,193,263		$491.62		--	--	None	--
UPPER YAKIMA	1703000102	Tenaway River	H	H		$661,644	$513,049	$38.92	$7.70	--	--	None	--
UPPER YAKIMA	1703000103	Middle Upper Yakima River	H	H		$1,546,952	$878,624	$26.38	$1.59	--	--	None	--
UPPER YAKIMA	1703000104	Umtanum/Wenas	M	H		$528,913	$265,842	$24.52	$10.47	--	--	None	--
NACHES	1703000201	Little Naches River	H			$723,850		$6,236.76		--	--	None	--
NACHES	1703000202	Naches River/RattleSnake Creek	H	H		$613,666	$612,306	$11.61	$10.30	--	--	None	--
NACHES	1703000203	Naches River/Tieton River	H	H		$2,294,456	$1,320,788	$82.50	$37.02	--	--	None	--
LOWER YAKIMA	1703000301	Ahtanum Creek	H			$489,174		$13.19		--	--	None	--
LOWER YAKIMA	1703000302	Upper Lower Yakima River	M	H		$447,809	$123,450	$5.11	$0.77	--	--	None	--
LOWER YAKIMA	1703000303	Upper Toppenish Creek	H			$232,500		$81.04		--	--	None	--
LOWER YAKIMA	1703000304	Lower Toppenish Creek	M	H		$170,815	$79,847	$3.53	$1.40	--	--	None	--
LOWER YAKIMA	1703000305	Satus Creek	H			$24,516		$0.00		--	--	None	--
LOWER YAKIMA	1703000306	Yakima River/Spring Creek	M	H		$550,458	$370,206	$9.14	$5.95	--	Yes	None[a]	--
LOWER YAKIMA	1703000307	Yakima River/Cold Creek	H	H		$164,971	$87,628	$3.29	$1.38	--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010101	Upper Lake Wallula	H	H		$1,066,806	$123,361	$32.91	$1.23	--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010102	Lower Lake Wallula	H	H		$134,592	$130,512	$31.64	$30.57	--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010105	Glade Creek	M		Yes	$6,860		$7.45		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010106	Upper Lake Umatilla	H	H		$24,454	$19,014	$3.20	$2.44	--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010109	Middle Lake Umatilla	H	H		$54,201	$17,773	$11.96	$2.70	--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010110	Alder Creek	M		Yes	$2,999		$0.00		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010111	Pine Creek	M		Yes	$2,237		$0.00		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010112	Wood Gulch	H			$65,485		$1,023.20		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010113	Rock Creek	H		Yes	$22,648		$3.04		--	--	None	--
MIDDLE COLUMBIA/LAKE WALLULA	1707010114	Lower Lake Umatilla	H	H		$475,646	$181,319	$571.54	$196.12	--	--	None	--
WALLA WALLA	1707010201	Upper Walla Walla River	H			$278,666		$2.08		--	--	None	--
WALLA WALLA	1707010202	Mill Creek	H			$984,474		$32.52		--	--	None	--
WALLA WALLA	1707010203	Upper Touchet River	H			$251,635		$16.75		--	--	None	--
WALLA WALLA	1707010204	Middle Touchet River	H	H		$60,114	$45,129	$20.20	$13.42	--	--	None	--
WALLA WALLA	1707010207	Lower Touchet River	H	H		$89,691	$89,691	$145.60	$145.60	--	--	None	--
WALLA WALLA	1707010208	Cottonwood Creek	M	H		$1,533,312	$1,491,077	$55.36	$53.82	--	Yes	None[b]	--
WALLA WALLA	1707010209	Pine Creek	L			$181,804		$52.47		Yes	--	Entire watershed	$181,804
WALLA WALLA	1707010210	Dry Creek	M			$100,483		$109.51		--	--	None	--
WALLA WALLA	1707010211	Lower Walla Walla River	M	H		$1,605,313	$1,301,355	$400.05	$323.27	--	Yes	Tributaries Only	$1,301,355
UMATILLA	1707010301	Upper Umatilla River	H			$336,966		$0.00		--	--	None	--
UMATILLA	1707010302	Meacham Creek	H			$506,962		$17.44		--	--	None	--
UMATILLA	1707010303	Umatilla River/Mission Creek	M	H		$102,206	$28,038	$5.49	$1.11	--	--	None	--
UMATILLA	1707010304	Wildhorse Creek	L			$586,046		$245.21		Yes	--	Entire watershed	$586,046
UMATILLA	1707010305	Mckay Creek	H			$148,046		$24.82		--	--	None	--
UMATILLA	1707010306	Birch Creek	H			$710,044		$273.87		--	--	None	--
UMATILLA	1707010307	Umatilla River/Alkali Canyon		H		$1,360		$1.07		--	--	None	--
UMATILLA	1707010308	Stage Gulch	L		Yes	$36,697		$9.84		Yes	--	Entire watershed	$36,697
UMATILLA	1707010310	Lower Butter Creek	L		Yes	$18,822		$1.81		Yes	--	Entire watershed	$18,822
UMATILLA	1707010313	Lower Umatilla River	H	H		$117,826	$49,116	$3.36	$0.66	--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010501	Upper Middle Columbia/Hood	L	H		$377,011	$56,605	$313.60	$11.35	--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010502	Fifteenmile Creek	H	H		$150,226	$111,127	$48.66	$13.40	--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010503	Fivemile Creek	H			$147,388		$85.68		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010504	Middle Columbia/Mill Creek	H			$631,437		$11.69		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010505	Mosier Creek	M			$69,105		$17.12		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010509	White Salmon River	M			$2,141,786		$4.16		Yes	--	None[c]	--
MIDDLE COLUMBIA/HOOD	1707010510	Little White Salmon River	M			$602,109		$340.63		Yes	--	Entire watershed	$602,109
MIDDLE COLUMBIA/HOOD	1707010512	Middle Columbia/Grays Creek	M	H		$421,595	$407,994	$8.95	$7.44	--	Yes	Tributaries Only	$407,994
MIDDLE COLUMBIA/HOOD	1707010513	Middle Columbia/Eagle Creek		H		$5,440		$11.09		--	--	None	--
KLICKITAT	1707010601	Upper Klickitat River	H		Yes	$7,881		$0.00		--	--	None	--
KLICKITAT	1707010602	Middle Klickitat River	H	H		$1,492	$1,492	$0.00	$0.00	--	--	None	--
KLICKITAT	1707010603	Little Klickitat River	H			$313,760		$50.05		--	--	None	--
KLICKITAT	1707010604	Lower Klickitat River	H	H		$277,689	$38,389	$118.18	$5.57	--	--	None	--
UPPER JOHN DAY	1707020103	Middle South Fork John Day	H			$353,630		$0.00		--	--	None	--
UPPER JOHN DAY	1707020104	Murderers Creek	H			$267,195		$0.00		--	--	None	--
UPPER JOHN DAY	1707020105	Lower South Fork John Day	H	H		$269,461	$268,101	$6.73	$0.00	--	--	None	--
UPPER JOHN DAY	1707020106	Upper John Day River	H			$227,650		$0.00		--	--	None	--
UPPER JOHN DAY	1707020107	Canyon Creek	H			$165,130		$6.74		--	--	None	--
UPPER JOHN DAY	1707020108	Strawberry Creek	H	H		$153,381	$152,021	$13.82	$13.25	--	--	None	--
UPPER JOHN DAY	1707020109	Beech Creek	H			$170,205		$0.00		--	--	None	--
UPPER JOHN DAY	1707020110	Laycock Creek	H	H		$144,105	$140,024	$9.38	$6.82	--	--	None	--
UPPER JOHN DAY	1707020111	Fields Creek	M	H		$127,031	$127,031	$15.81	$15.81	--	--	None	--
UPPER JOHN DAY	1707020112	Upper Middle John Day	H	H		$219,721	$219,721	$0.00	$0.00	--	--	None	--
UPPER JOHN DAY	1707020113	Mountain Creek	H			$484,899		$13,341.22		--	--	None	--
UPPER JOHN DAY	1707020114	Rock Creek	H	H		$199,405	$199,405	$10,602.50	$10,602.50	--	--	None	--

UPPER JOHN DAY	1707020115	John Day River/Johnson Creek	H	H		$196,853	$196,853	$63.02	$63.02	--	--	None	--
NORTH FORK JOHN DAY	1707020201	Upper North Fork John Day River	H			$133,837		$0.00		--	--	None	--
NORTH FORK JOHN DAY	1707020202	Granite Creek	H			$315,962		$0.00		--	--	None	--
NORTH FORK JOHN DAY	1707020203	North Fork John Day River/Big Creek	H	H		$296,324	$296,324	$0.00	$0.00	--	--	None	--
NORTH FORK JOHN DAY	1707020204	Desolation Creek	H			$413,043		$0.00		--	--	None	--
NORTH FORK JOHN DAY	1707020205	Upper Camas Creek	H			$527,516		$0.00		--	--	None	--
NORTH FORK JOHN DAY	1707020206	Lower Camas Creek	H	H		$461,954	$428,245	$192.09	$74.22	--	--	None	--
NORTH FORK JOHN DAY	1707020207	North Fork John Day River/Potamus Creek	H	H		$684,850	$684,850	$143.28	$143.28	--	--	None	--
NORTH FORK JOHN DAY	1707020208	Wall Creek	H			$644,782		$1,023.93		--	--	None	--
NORTH FORK JOHN DAY	1707020209	Cottonwood Creek	H			$141,541		$0.00		--	--	None	--
NORTH FORK JOHN DAY	1707020210	Lower North Fork John Day River	M	H		$125,181	$125,181	$64.65	$64.65	--	--	None	--
MIDDLE FORK JOHN DAY	1707020301	Upper Middle Fork John Day River	H			$284,105		$543.75		--	--	None	--
MIDDLE FORK JOHN DAY	1707020302	Camp Creek	H	H		$448,206	$448,206	$0.00	$0.00	--	--	None	--
MIDDLE FORK JOHN DAY	1707020303	Big Creek	H	H		$282,750	$282,750	$0.00	$0.00	--	--	None	--
MIDDLE FORK JOHN DAY	1707020304	Long Creek	H			$129,396		$63.68		--	--	None	--
MIDDLE FORK JOHN DAY	1707020305	Lower Middle Fork John Day River	L	H	Yes	$7,372	$7,372	$0.00	$0.00	--	Yes	Tributaries Only	$7,372
LOWER JOHN DAY	1707020401	Lower John Day River/Kahler Creek	H	H		$268,260	$245,100	$86.25	$27.62	--	--	None	--
LOWER JOHN DAY	1707020402	Lower John Day River/Service Creek	H	H		$75,183	$75,183	$82.72	$82.72	--	--	None	--
LOWER JOHN DAY	1707020403	Bridge Creek	H			$244,394		$67.96		--	--	None	--
LOWER JOHN DAY	1707020404	Lower John Day River/Muddy Creek	H	H		$179,501	$179,501	$256.51	$256.51	--	--	None	--
LOWER JOHN DAY	1707020405	Lower John Day River/Clarno	L	H		$103,072	$103,072	$0.13	$0.13	--	Yes	Tributaries Only	$103,072
LOWER JOHN DAY	1707020406	Butte Creek	M			$7,668		$0.78		--	--	None	--
LOWER JOHN DAY	1707020407	Pine Hollow	H			$55,891		$0.00		--	--	None	--
LOWER JOHN DAY	1707020408	Thirtymile Creek	M			$57,661		$11.59		--	--	None	--
LOWER JOHN DAY	1707020409	Lower John Day River/Ferry Canyon	M	H		$32,979	$32,979	$0.25	$0.25	--	--	None	--
LOWER JOHN DAY	1707020410	Lower John Day River/Scott Canyon	M	H		$113,837	$113,837	$261.75	$261.75	--	--	None	--
LOWER JOHN DAY	1707020411	Upper Rock Creek	H			$1,109,583		$10,997.80		--	--	None	--
LOWER JOHN DAY	1707020412	Lower Rock Creek	M	H		$129,705	$20,705	$726.77	$0.11	--	--	None	--
LOWER JOHN DAY	1707020413	Grass Valley Canyon	M			$14,000		$12.98		--	--	None	--
LOWER JOHN DAY	1707020414	Lower John Day River/McDonald Ferry		H		$0		$5.05		--	--	None	--
LOWER DESCHUTES	1707030603	Upper Deschutes River	H	H		$1,571,152	$44,086	$0.41	$0.00	--	--	None	--
LOWER DESCHUTES	1707030604	Mill Creek	H	H		$18,009	$18,009	$0.00	$0.00	--	--	None	--
LOWER DESCHUTES	1707030605	Beaver Creek	H			$8,911		$0.00		--	--	None	--
LOWER DESCHUTES	1707030606	Warm Springs River	H	H		$58,715	$58,715	$0.00	$0.00	--	--	None	--
LOWER DESCHUTES	1707030607	Middle Deschutes River	H	H		$348,895	$347,535	$1.84	$0.21	--	--	None	--
LOWER DESCHUTES	1707030608	Bakeoven Creek	H			$20,773		$0.10		--	--	None	--
LOWER DESCHUTES	1707030610	White River	L			$919,625		$308.00		Yes	--	Entire watershed	$919,625
LOWER DESCHUTES	1707030611	Buck Hollow Creek	H			$106,928		$889.14		--	--	None	--
LOWER DESCHUTES	1707030612	Lower Deschutes River	H	H		$323,013	$323,013	$3.06	$3.06	--	--	None	--
TROUT	1707030701	Upper Trout Creek	H			$177,347		$135.93		--	--	None	--
TROUT	1707030702	Antelope Creek	M			$49,560		$0.00		--	--	None	--
TROUT	1707030704	Mud Springs Creek	L		Yes	$113,141		$0.00		Yes	--	Entire watershed	$113,141
TROUT	1707030705	Lower Trout Creek	H	H		$52,448	$52,448	$0.14	$0.14	--	--	None	--
LOWER COLUMBIA/SANDY	1708000107	Columbia Gorge Tributaries		H		$495,915		$58.47		--	--	None	--
Lower Columbia Corridor (Sandy/Washougal to Ocean)				H		$2,395,331		$693.32		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$42,706,217
Total reduction in economic impact of exclusions	$4,278,037
Total economic impact of areas designated for critical habitat	$38,428,180
Percent reduction in economic impact due to economic exclusions	10.0%
Percent reduction in miles designated as critical habitat due to economic exclusions	1.9%

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).

** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that exclusion would significantly impede conservation, noting that the tributaries in this watershed provide important thermal refugia for juveniles.

[b] CHART concluded that exclusion would significantly impede conservation, noting that tributaries in this watershed contain important rearing and migration habitat for upstream areas (e.g., Yellowjacket Creek) and active restoration efforts are ongoing.

[c] CHART concluded that exclusion would significantly impede conservation, noting that the White Salmon River is an important focus of restoration efforts.

Table D.11. Lower Columbia River steelhead ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Lower Columbia River steelhead Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
MIDDLE COLUMBIA/HOOD	1707010506	East Fork Hood River	H			$657,599		$94.03		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010507	West Fork Hood River	H			$295,670		$22.42		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010508	Hood River	H			$1,447,922		$12.59		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010511	Wind River	H			$779,775		$17.74		--	--	None	--
MIDDLE COLUMBIA/HOOD	1707010512	Middle Columbia/Grays Creek	L	H		$390,804	$377,204	$5.54	$4.03	--	Yes	Tributaries Only	$377,204
MIDDLE COLUMBIA/HOOD	1707010513	Middle Columbia/Eagle Creek	M	H		$283,053	$277,613	$11.09	$9.53	--	--	None	--
LOWER COLUMBIA/SANDY	1708000101	Salmon River	H			$224,301		$8.84		--	--	None	--
LOWER COLUMBIA/SANDY	1708000102	Zigzag River	H			$174,579		$6.54		--	--	None	--
LOWER COLUMBIA/SANDY	1708000103	Upper Sandy River	H			$110,088		$0.13		--	--	None	--
LOWER COLUMBIA/SANDY	1708000104	Middle Sandy River	M	H		$160,954	$159,594	$9.74	$9.55	--	--	None	--
LOWER COLUMBIA/SANDY	1708000105	Bull Run River	M			$1,936,112		$421.12		Yes	--	Entire watershed	$1,936,112
LOWER COLUMBIA/SANDY	1708000106	Washougal River	H			$400,704		$8.28		--	--	None	--
LOWER COLUMBIA/SANDY	1708000107	Columbia Gorge Tributaries	M	H		$926,803	$430,888	$58.53	$3.25	--	Yes	None[a]	--
LOWER COLUMBIA/SANDY	1708000108	Lower Sandy River	M			$232,809		$3.81		--	--	None	--
LOWER COLUMBIA/SANDY	1708000109	Salmon Creek	M			$3,941,426		$13.63		Yes	--	Entire watershed	$3,941,426
LEWIS	1708000205	East Fork Lewis River	H			$827,323		$16.77		--	--	None	--
LEWIS	1708000206	Lower Lewis River	H	H		$564,609	$160,125	$33.88	$1.37	--	--	None	--
LOWER COLUMBIA/CLATSKANIE	1708000301	Kalama River	H			$561,959		$66.53		--	--	None	--
UPPER COWLITZ	1708000401	Headwaters Cowlitz River	H			$177,224		$0.00		--	--	None	--
UPPER COWLITZ	1708000402	Upper Cowlitz River	H	H		$3,058,911	$362,857	$12.03	$0.00	--	--	None	--
UPPER COWLITZ	1708000403	Cowlitz Valley Frontal	H	H		$642,966	$590,431	$26.56	$10.36	--	--	None	--
UPPER COWLITZ	1708000404	Upper Cispus River	H			$691,534		$0.00		--	--	None	--
UPPER COWLITZ	1708000405	Lower Cispus River	H	H		$718,610	$677,735	$444.29	$0.00	--	--	None	--
COWLITZ	1708000501	Tilton River	M			$337,753		$14.85		Yes	--	Entire watershed	$337,753
COWLITZ	1708000502	Riffe Reservoir	H	H		$720,376	$231,547	$33.09	$32.75	--	--	None	--
COWLITZ	1708000503	Jackson Prairie	M	H		$599,003	$229,196	$82.46	$25.91	--	--	None	--
COWLITZ	1708000504	North Fork Toutle River	M	H		$368,903	$368,903	$21,205.00	$21,205.00	--	Yes	None[b]	--
COWLITZ	1708000505	Green River	H			$160,091		$0.00		--	--	None	--
COWLITZ	1708000506	South Fork Toutle River	M			$49,953		$2.31		--	--	None	--
COWLITZ	1708000507	East Willapa	H	H		$381,515	$235,745	$20.91	$9.71	--	--	None	--
COWLITZ	1708000508	Coweeman	M	H		$411,955	$38,325	$13.76	$1.28	--	--	None	--
MIDDLE WILLAMETTE	1709000704	Abernethy Creek	L			$692,616		$3.88		Yes	--	Entire watershed	$692,616
CLACKAMAS	1709001101	Collawash River	H			$436,173		$577.71		--	--	None	--
CLACKAMAS	1709001102	Upper Clackamas River	H			$557,445		$0.00		--	--	None	--
CLACKAMAS	1709001103	Oak Grove Fork Clackamas River	H			$1,195,914		$0.00		--	--	None	--
CLACKAMAS	1709001104	Middle Clackamas River	H	H		$2,927,818	$773,808	$7.85	$0.32	--	--	None	--
CLACKAMAS	1709001105	Eagle Creek	H			$115,797		$9.31		--	--	None	--
CLACKAMAS	1709001106	Lower Clackamas River	H	H		$1,125,579	$409,767	$7.47	$6.94	--	--	None	--
LOWER WILLAMETTE	1709001201	Johnson Creek	H	H		$714,163	$329,726	$2.12	$0.88	--	--	None	--
LOWER WILLAMETTE	1709001202	Scappoose Creek	H	H		$644,333	$180,961	$24.20	$5.23	--	--	None	--
LOWER WILLAMETTE	1709001203	Columbia Slough/Willamette River	H	H		$3,531,273	$796,674	$7.85	$1.36	--	--	None	--
Lower Columbia Corridor (Sandy/Washougal to Ocean)				H		$2,395,331		$693.37		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$36,571,726
Total reduction in economic impact of exclusions	$7,285,111
Total economic impact of areas designated for critical habitat	$29,286,615
Percent reduction in economic impact due to economic exclusions	19.9%
Percent reduction in miles designated as critical habitat due to economic exclusions	8.8%

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).

** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that excluding this watershed would significantly impede conservation, noting that the Lower Columbia Fish Recovery Board's interim recovery plan emphasizes achieving a high viability level for lower Gorge tributaries.

[b] CHART concluded that exclusion would significantly impede conservation, noting that this is one of only two watersheds supporting a TRT core winter-run population.

Table D.12. Upper Willamette River steelhead ESU. Conservation-value ratings, economic impacts, and exclusions for fifth-field watersheds occupied by the Upper Willamette steelhead Evolutionarily Significant Unit (ESU). 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 ($) per year), and as the per capita annual cost of consultations (in U.S. dollars ($) per year per person). The economic impact of tributaries represents the annual total cost for a watershed less the cost associated with the connectivity corridor(s). Local economic impacts reflect the costs associated with activities geographically confined in scope, and unlikely to have regional impacts or impacts beyond the subject watershed.

Occupied Areas			Conservation Value Ratings			Annual Total, Tributary-only, and Local per capita Economic Impacts				ESA Section 4(b)(2) Consideration of Watersheds for Exclusion from Designation as Critical Habitat			
Subbasin Name	Watershed Identification Code	Watershed Name	Benefit of designating watershed	Benefit of designating connectivity corridor *	Low Leverage**	Annual Total Impact	Annual Tributary Impact	Annual Local Impact per capita	Annual Local Tributary Impact per capita	Entire Watershed Eligible for Exclusion	Tributaries-only Eligible for Exclusion	Area Excluded	Reduction in Economic Impact from Exclusions
UPPER WILLAMETTE	1709000303	Calapooia River	H			$129,074		$4.45		--	--	None	--
UPPER WILLAMETTE	1709000304	Oak Creek	M	H		$278,385	$91,907	$4.57	$1.35	--	--	None	--
UPPER WILLAMETTE	1709000306	Luckiamute River	M			$347,110		$48.80		Yes	--	None[a]	--
NORTH SANTIAM	1709000504	Middle North Santiam River	H			$49,207		$7.03		--	--	None	--
NORTH SANTIAM	1709000505	Little North Santiam River	H			$100,774		$0.26		--	--	None	--
NORTH SANTIAM	1709000506	Lower North Santiam River	H	H		$162,380	$71,678	$10.49	$5.32	--	--	None	--
SOUTH SANTIAM	1709000601	Hamilton Creek/South Santiam River	H	H		$153,045	$116,489	$3.67	$2.11	--	--	None	--
SOUTH SANTIAM	1709000602	Crabtree Creek	H			$116,475		$0.50		--	--	None	--
SOUTH SANTIAM	1709000603	Thomas Creek	H			$95,770		$4.12		--	--	None	--
SOUTH SANTIAM	1709000606	South Santiam River	H			$522,291		$52.31		--	--	None	--
SOUTH SANTIAM	1709000607	South Santiam River/Foster Reservoir	H	H		$1,454	$94	$2.30	$0.01	--	--	None	--
SOUTH SANTIAM	1709000608	Wiley Creek	H			$29,396		$20.95		--	--	None	--
MIDDLE WILLAMETTE	1709000701	Mill Creek/Willamette River	L	H		$761,210	$138,975	$14.83	$2.59	--	Yes	Tributaries Only	$138,975
MIDDLE WILLAMETTE	1709000702	Rickreall Creek	L	H		$352,462	$326,704	$9.19	$8.43	--	Yes	Tributaries Only	$326,704
MIDDLE WILLAMETTE	1709000703	Willamette River/Chehalem Creek	L	H		$573,308	$455,016	$2.96	$2.29	--	Yes	Tributaries Only	$455,016
MIDDLE WILLAMETTE	1709000704	Abernethy Creek	L	H		$692,050	$303,194	$3.88	$2.97	--	Yes	Tributaries Only	$303,194
YAMHILL	1709000801	Upper South Yamhill River	M			$107,719		$13.57		--	--	None	--
YAMHILL	1709000802	Willamina Creek	L			$111,650		$6.30		Yes	--	Entire watershed	$111,650
YAMHILL	1709000803	Mill Creek/South Yamhill River	L			$109,342		$36.59		Yes	--	Entire watershed	$109,342
YAMHILL	1709000804	Lower South Yamhill River	L	M	Yes	$112,193	$70,374	$12.79	$7.74	--	Yes	Tributaries Only	$70,374
YAMHILL	1709000805	Salt Creek/South Yamhill River	L			$185,674		$41.85		Yes	--	Entire watershed	$185,674
YAMHILL	1709000806	North Yamhill River	L			$305,196		$23.07		Yes	--	Entire watershed	$305,196
YAMHILL	1709000807	Yamhill River	L	M		$185,187	$148,039	$5.69	$4.55	--	Yes	Tributaries Only	$148,039
MOLALLA/PUDDING	1709000901	Abiqua Creek/Pudding River	M			$804,679		$15.27		Yes	--	None[b]	--
MOLALLA/PUDDING	1709000902	Butte Creek/Pudding River	L	M		$122,817	$106,580	$13.55	$11.53	--	Yes	Tributaries Only	$106,580
MOLALLA/PUDDING	1709000903	Rock Creek/Pudding River	L			$121,044		$11.17		Yes	--	Entire watershed	$121,044
MOLALLA/PUDDING	1709000904	Senecal Creek/Mill Creek	L	M		$127,262	$115,022	$4.51	$4.08	--	Yes	Tributaries Only	$115,022
MOLALLA/PUDDING	1709000905	Upper Molalla River	H			$178,571		$2.61		--	--	None	--
MOLALLA/PUDDING	1709000906	Lower Molalla River	M	H		$127,451	$123,371	$6.12	$5.89	--	--	None	--
TUALATIN	1709001001	Dairy Creek	L			$324,929		$6.22		Yes	--	Entire watershed	$324,929
TUALATIN	1709001002	Gales Creek	M	M		$207,193	$190,955	$9.70	$8.88	--	--	None	--
TUALATIN	1709001003	Scoggins Creek	L			$301,216		$50.18		Yes	--	Entire watershed	$301,216
TUALATIN	1709001004	Rock Creek/Tualatin River	L	M		$598,918	$546,237	$2.06	$1.89	Yes	--	Entire watershed	$598,918
TUALATIN	1709001005	Lower Tualatin River	L	M		$766,806	$386,872	$3.78	$1.80	Yes	--	Entire watershed	$766,806
LOWER WILLAMETTE	1709001201	Johnson Creek		H		$384,436		$2.10		--	--	None	--
LOWER WILLAMETTE	1709001202	Scappoose Creek		H		$463,372		$24.20		--	--	None	--
LOWER WILLAMETTE	1709001203	Columbia Slough/Willamette River		H		$2,734,600		$7.84		--	--	None	--
Lower Columbia Corridor (Willamette to Ocean)				H		$2,395,331		$693.07		--	--	None	--

Maximum Economic Impact if all areas were designated as critical habitat	$15,139,977
Total reduction in economic impact of exclusions	$4,488,679
Total economic impact of areas designated for critical habitat	$10,651,298
Percent reduction in economic impact due to economic exclusions	29.6%
Percent reduction in miles designated as critical habitat due to economic exclusions	29.9%

Footnotes:

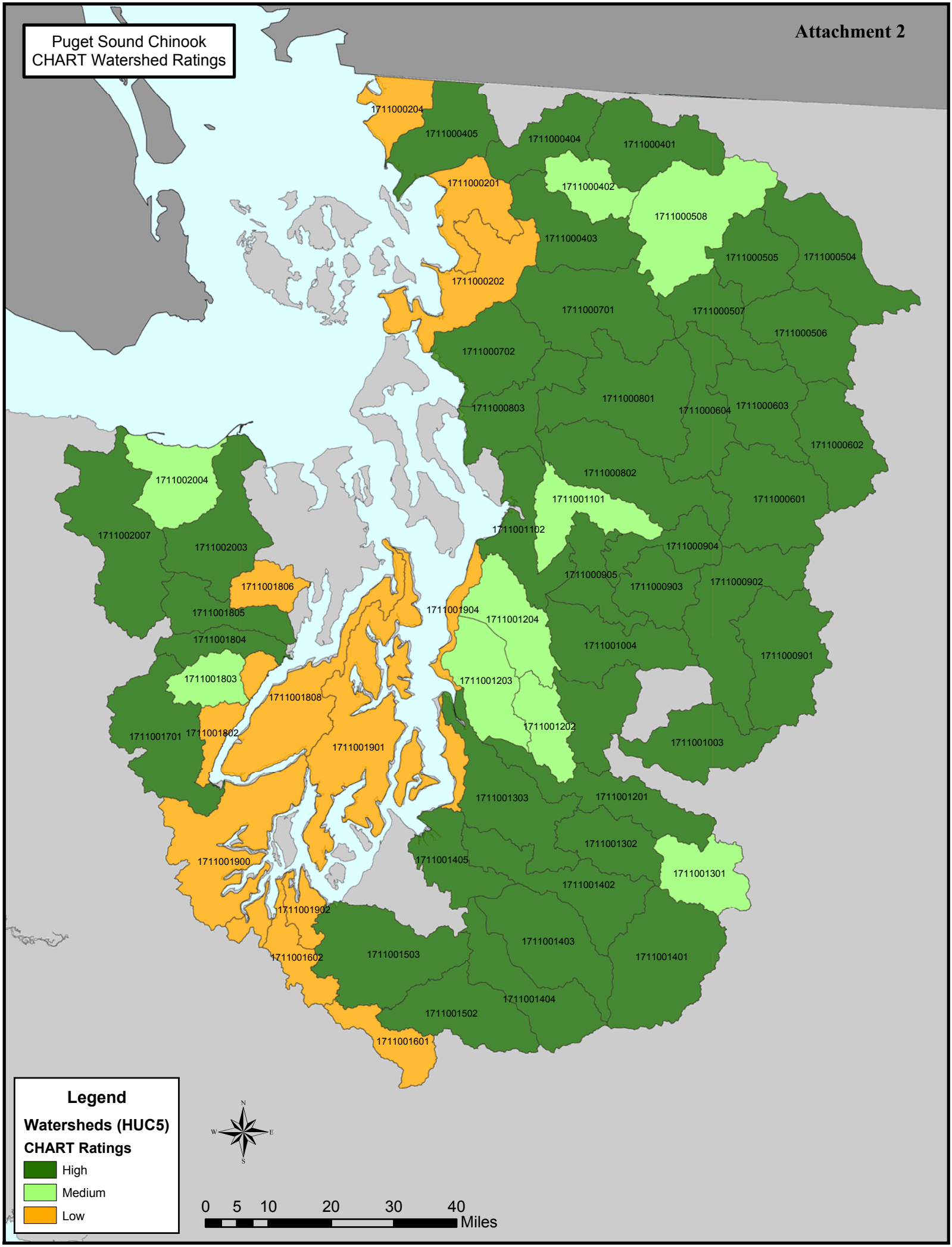
* Blanks for the conservation value of connectivity corridors indicate that a watershed does not include a rearing and migration corridor serving occupied watersheds upstream (i.e., there are no occupied upstream watersheds).

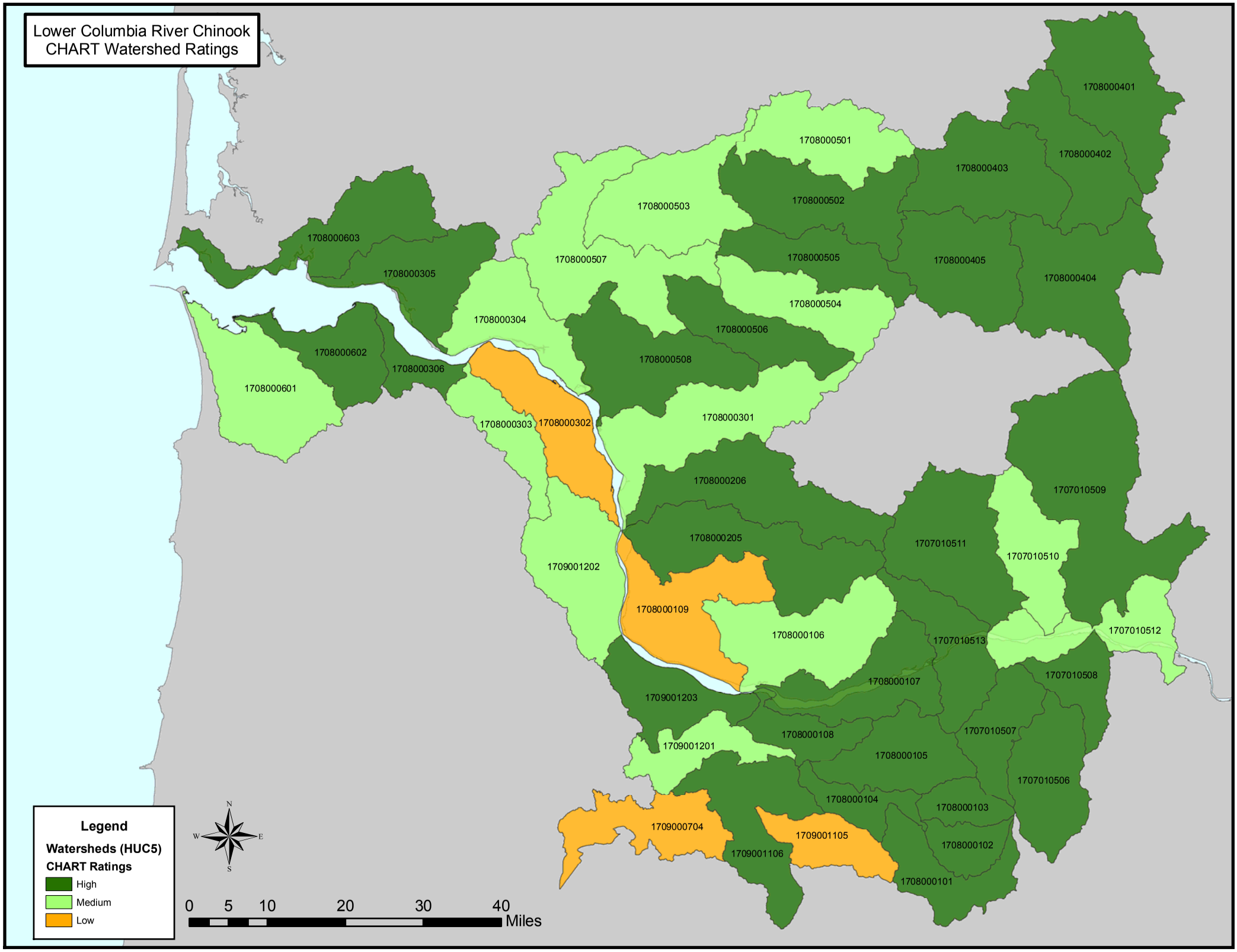
** Watersheds identified as "low leverage" (see report text for a description) were excluded from designation if the CHART determined that exclusion would not significantly impede conservation and the watershed was either (1) a low conservation value >$1,000 in total annual impact, or (2) a high or medium conservation value that exceeded the economic threshold associated with the next lower conservation value rating (e.g., a medium conservation value watershed with low leverage was treated as a low conservation value in this economic exclusion exercise).

[a] CHART concluded that exclusion would significantly impede conservation, noting that the relatively widespread habitat in the Luckiamute River may help buffer extinction risks should a catastrophic event harm the Cascade (eastside) tributary populations.

[b] CHART concluded that exclusion would significantly impede conservation, noting that a recent watershed assessment underscores that this watershed contains the largest steelhead run and best spawning and rearing habitat in the Pudding River subbasin.

Attachment 2




Lower Columbia River Chinook
CHART Watershed Ratings
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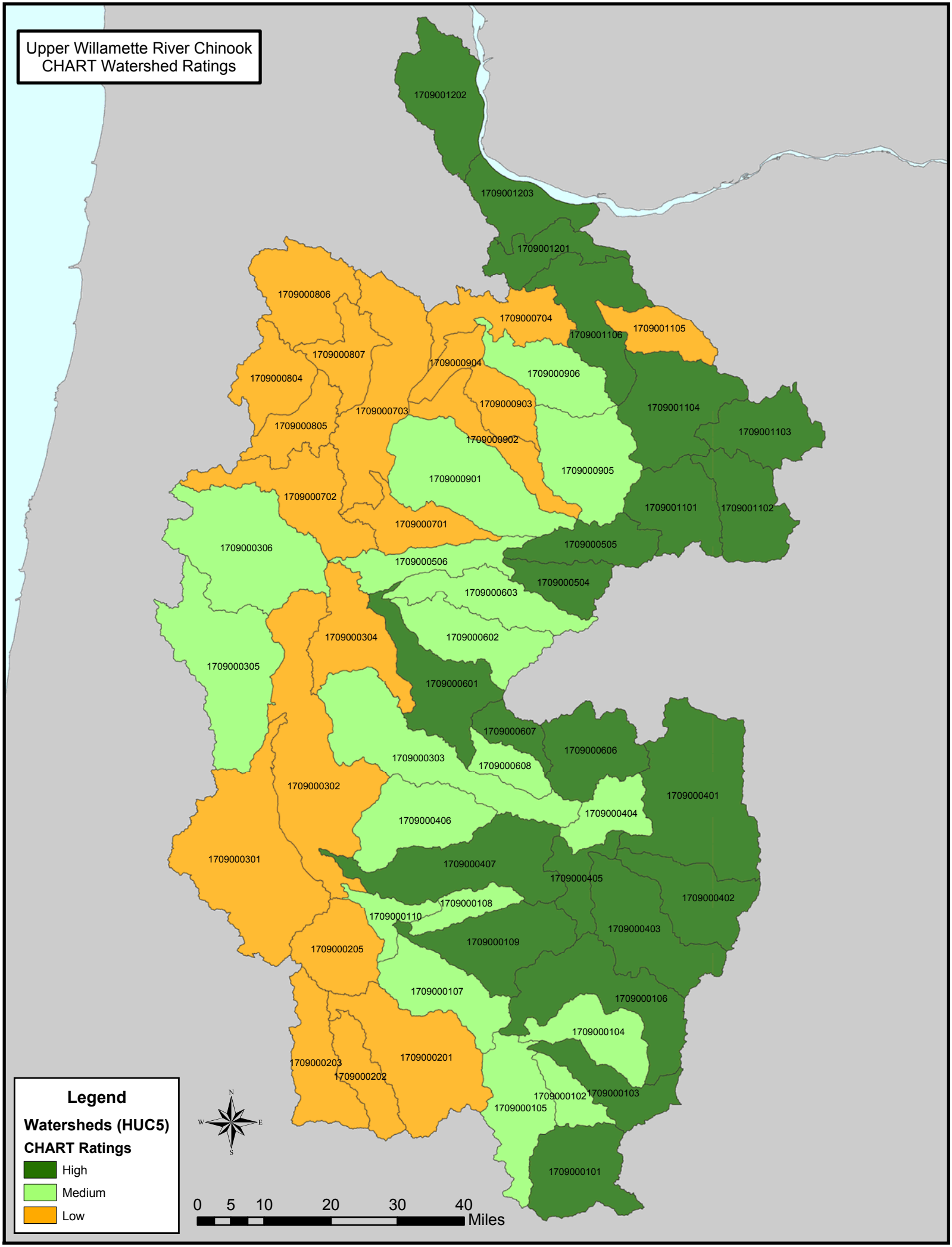
1708000102
1709001106
1708000101
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
Low
N
W
E
S
0
5
10
20
30
40
Miles


Upper Willamette River Chinook
CHART Watershed Ratings
1709001202
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1709001201
1709000806
1709000704
1709001106
1709001105
1709000807
1709000904
1709000906
1709000804
1709000903
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1709000805
1709001103
1709000902
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1709000901
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1709000106
1709000104
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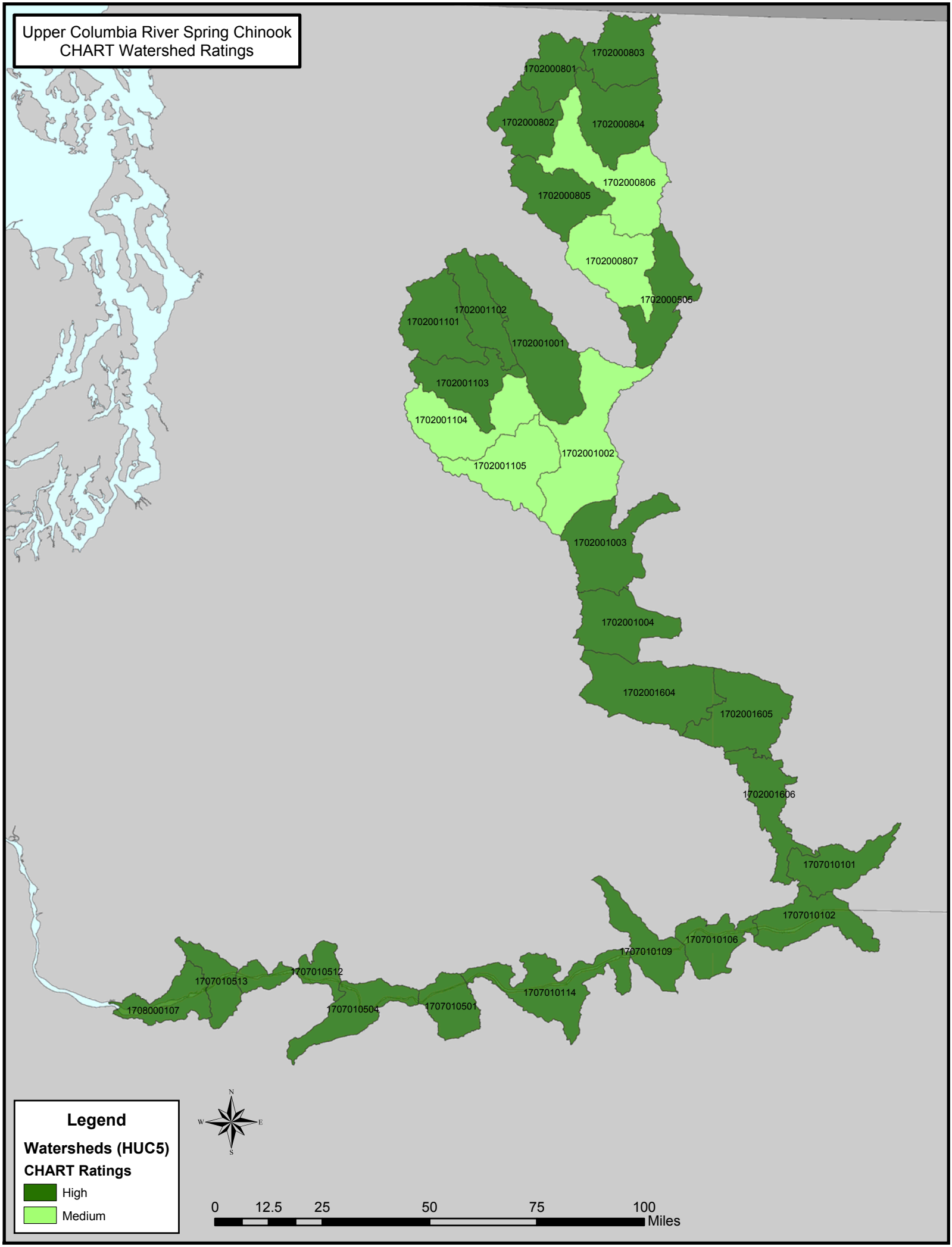
1709000201
1709000202
1709000102
1709000103
1709000105
1709000101
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
Low
N
W
E
S
0 5 10 20 30 40
Miles


Upper Columbia River Spring Chinook
CHART Watershed Ratings
1702000803
1702000801
1702000802
1702000804
1702000806
1702000805
1702000807
1702000505
1702001102
1702001101
1702001001
1702001103
1702001104
1702001002
1702001105
1702001003
1702001004
1702001604
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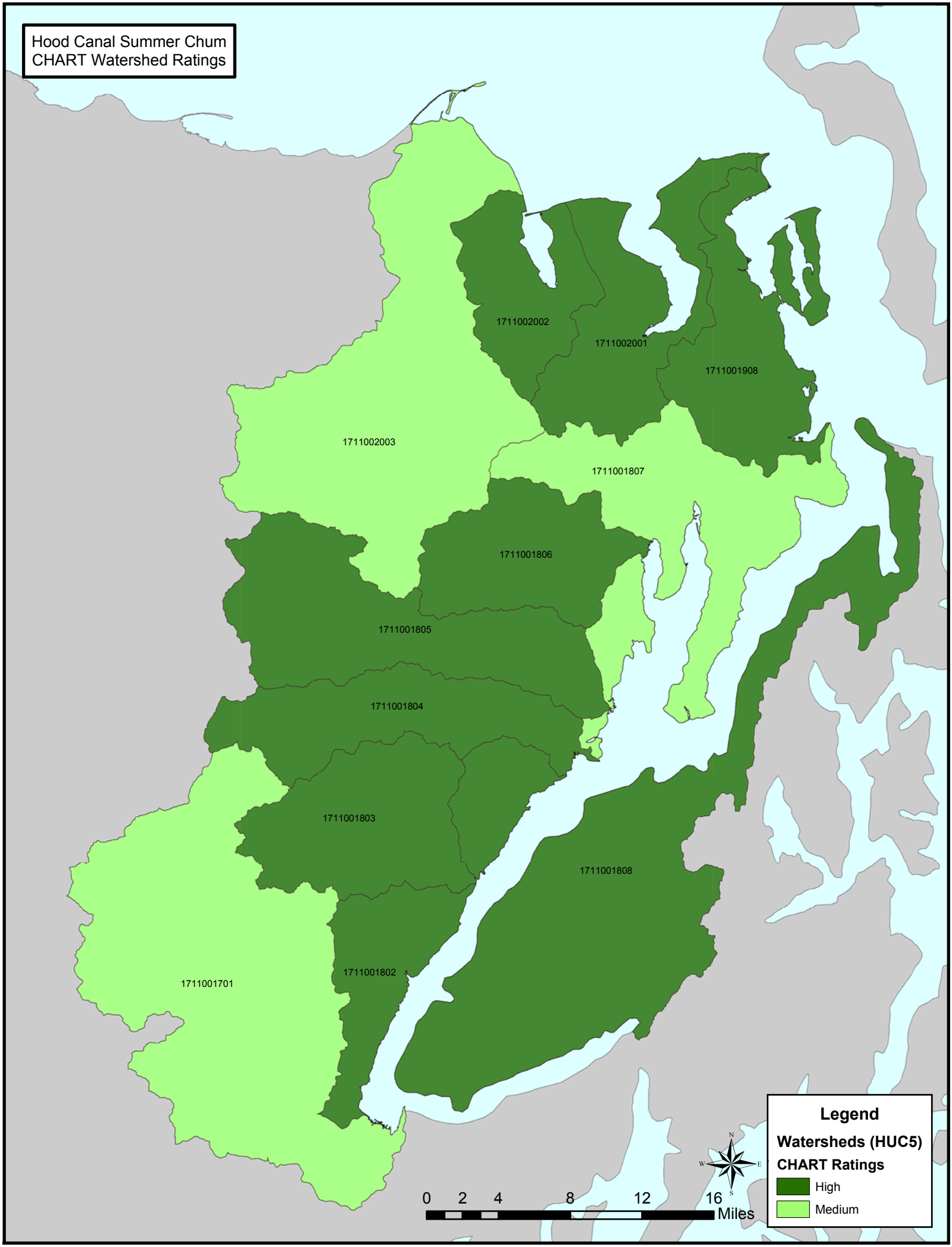
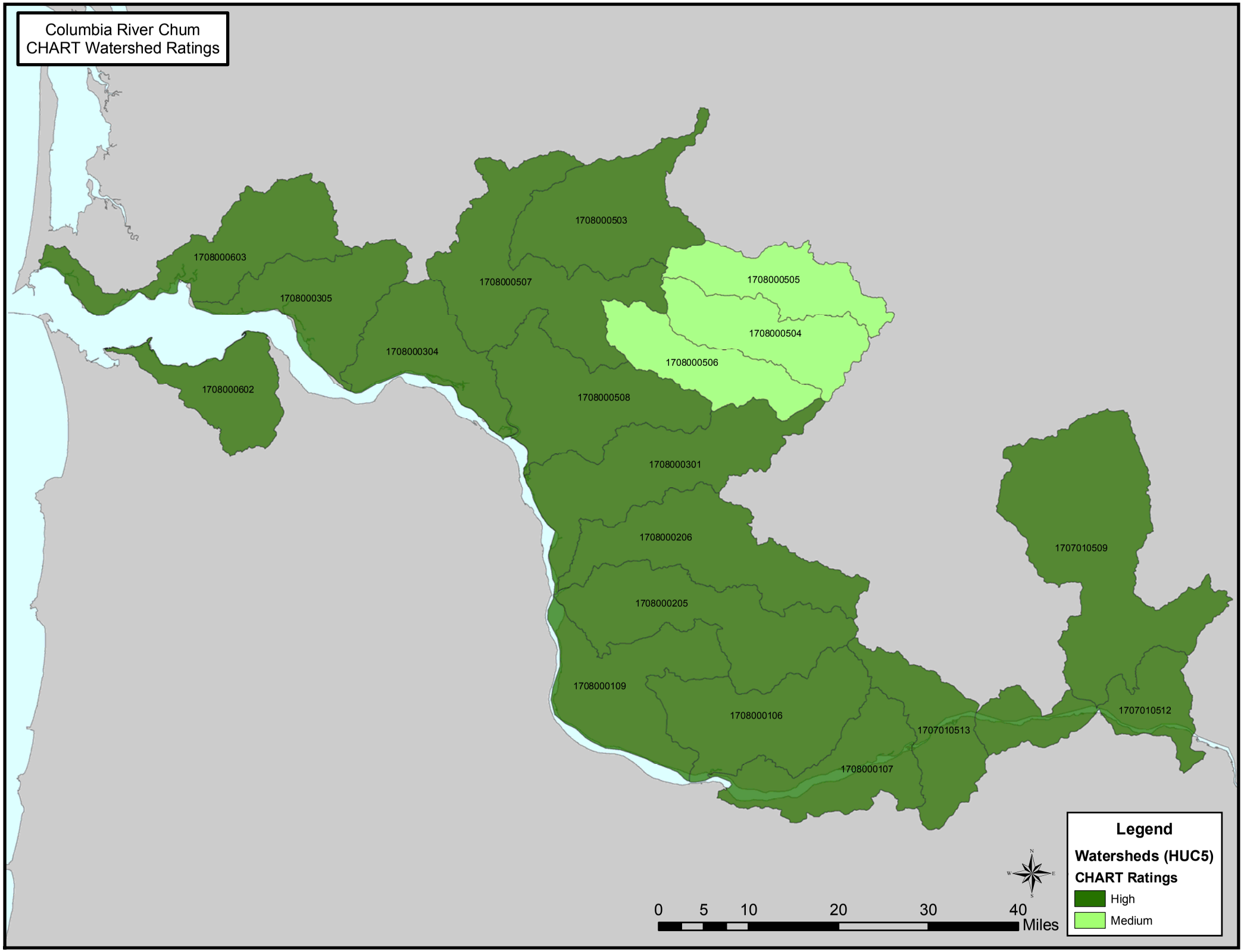
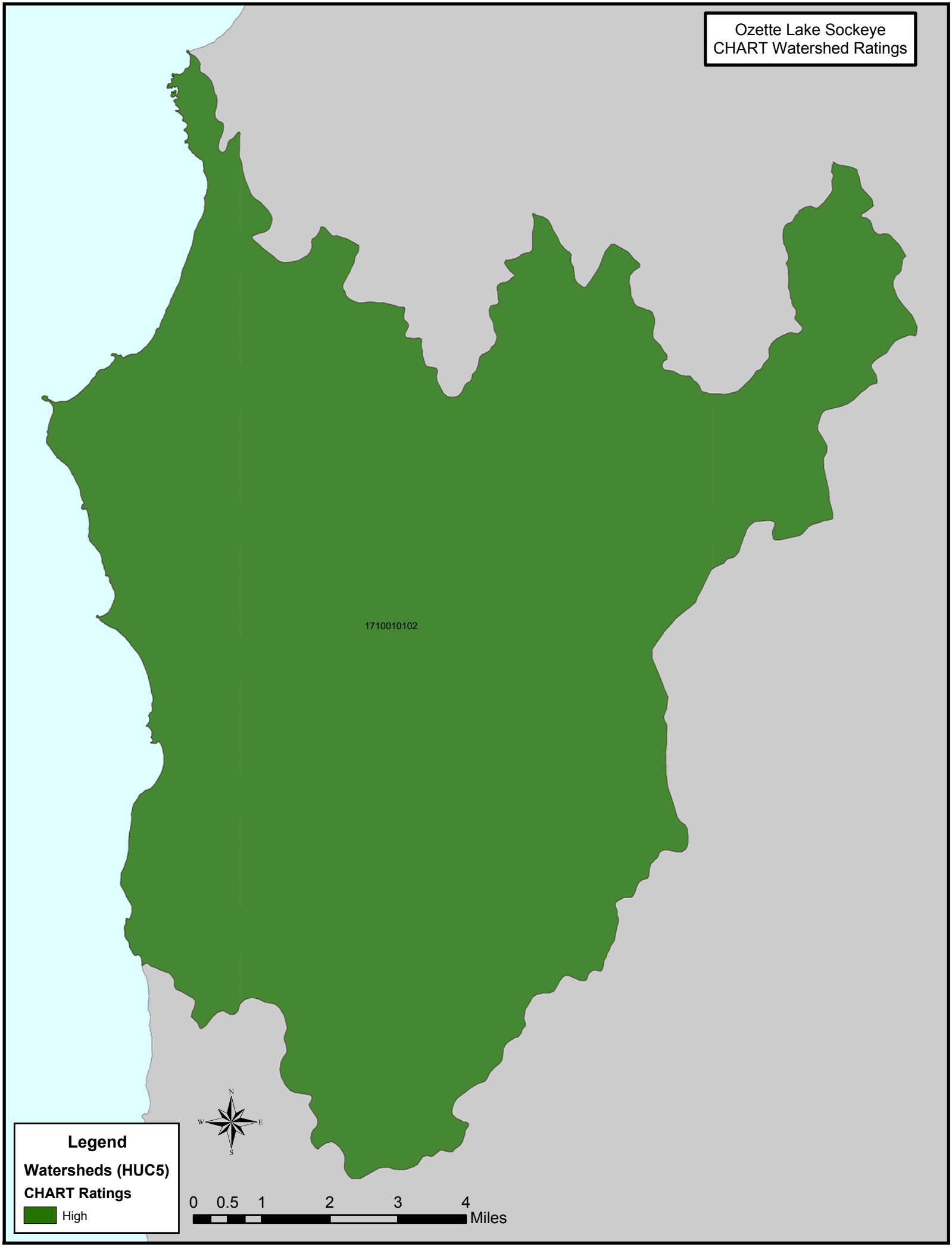
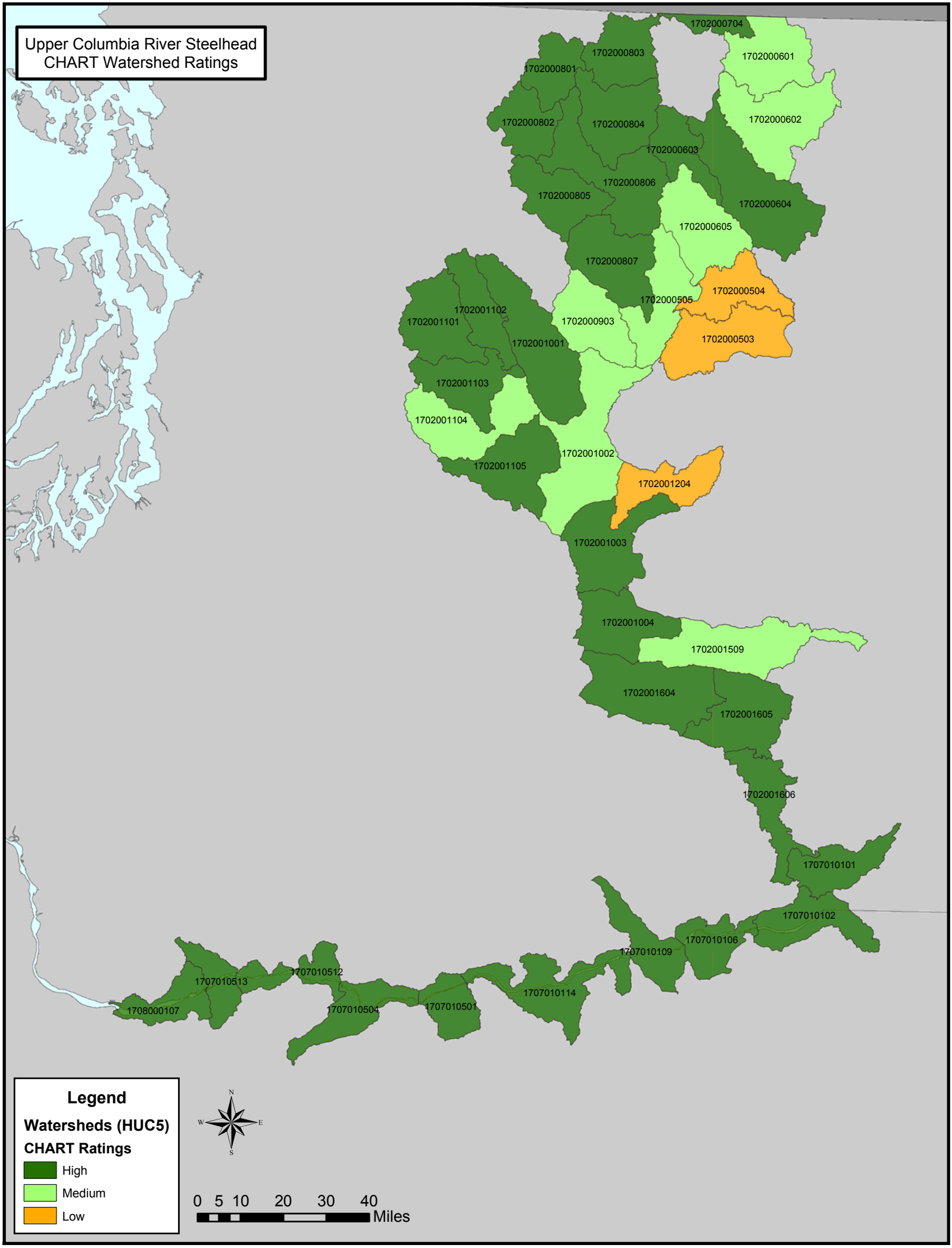
1707010101
1707010102
1707010106
1707010109
1707010114
1707010512
1707010513
1707010504
1707010501
1708000107
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
N
W
E
S
0
12.5
25
50
75
100
Miles


Hood Canal Summer Chum
CHART Watershed Ratings
1711002002
1711002001
1711001908
1711002003
1711001807
1711001806
1711001805
1711001804
1711001803
1711001808
1711001802
1711001701
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
0 2 4 8 12 16
Miles
N
W
E
S


Columbia River Chum
CHART Watershed Ratings
1708000503
1708000603
1708000507
1708000505
1708000305
1708000504
1708000304
1708000506
1708000602
1708000508
1708000301
1708000206
1707010509
1708000205
1708000109
1708000106
1707010512
1707010513
1708000107
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
0
5
10
20
30
40
Miles


Ozette Lake Sockeye
CHART Watershed Ratings
1710010102
N
W
E
S
Legend
Watersheds (HUC5)
CHART Ratings
High
0 0.5 1 2 3 4
Miles


Upper Columbia River Steelhead
CHART Watershed Ratings
1702000704
1702000803
1702000601
1702000801
1702000802
1702000804
1702000602
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1702000806
1702000805
1702000604
1702000605
1702000807
1702000504
1702000505
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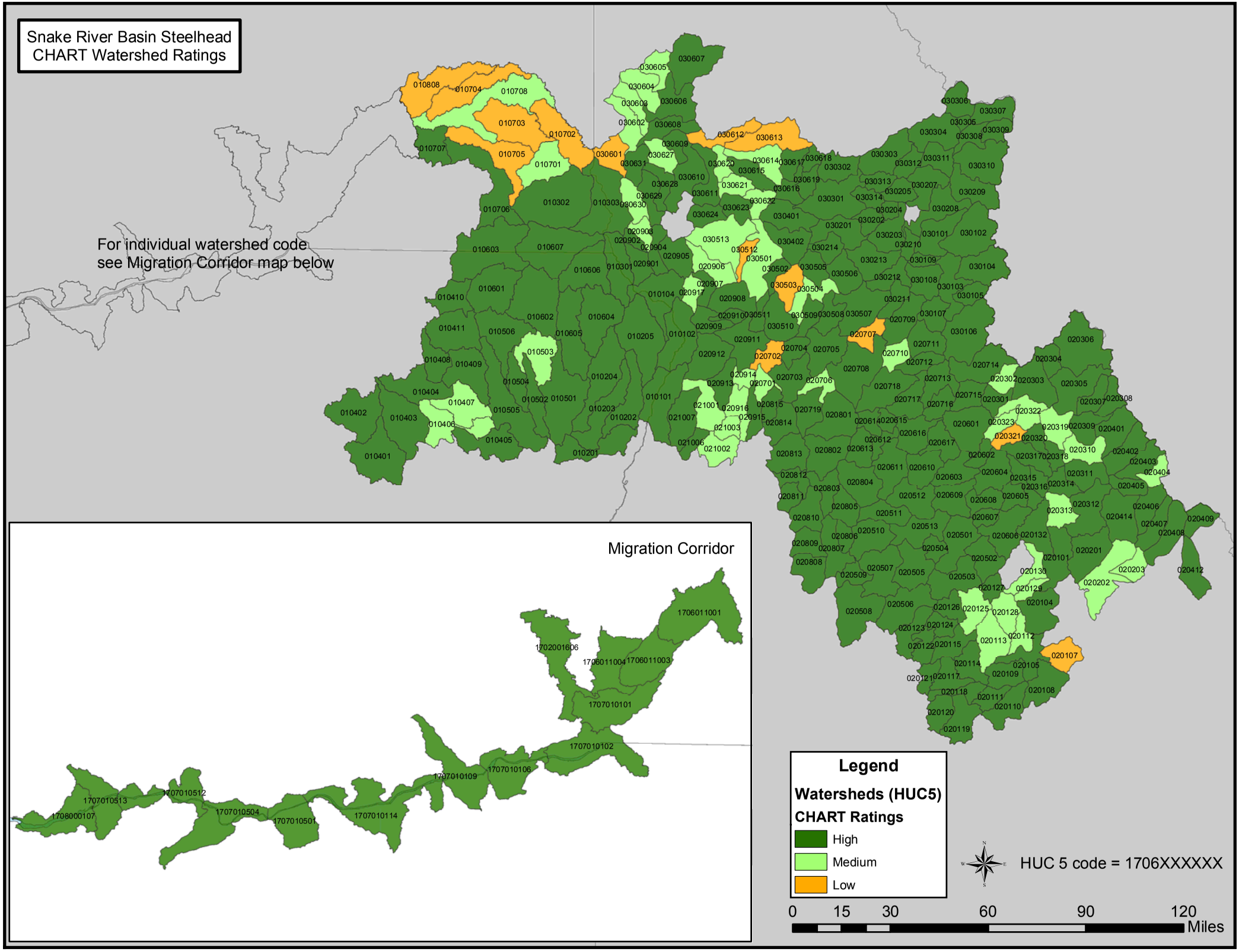
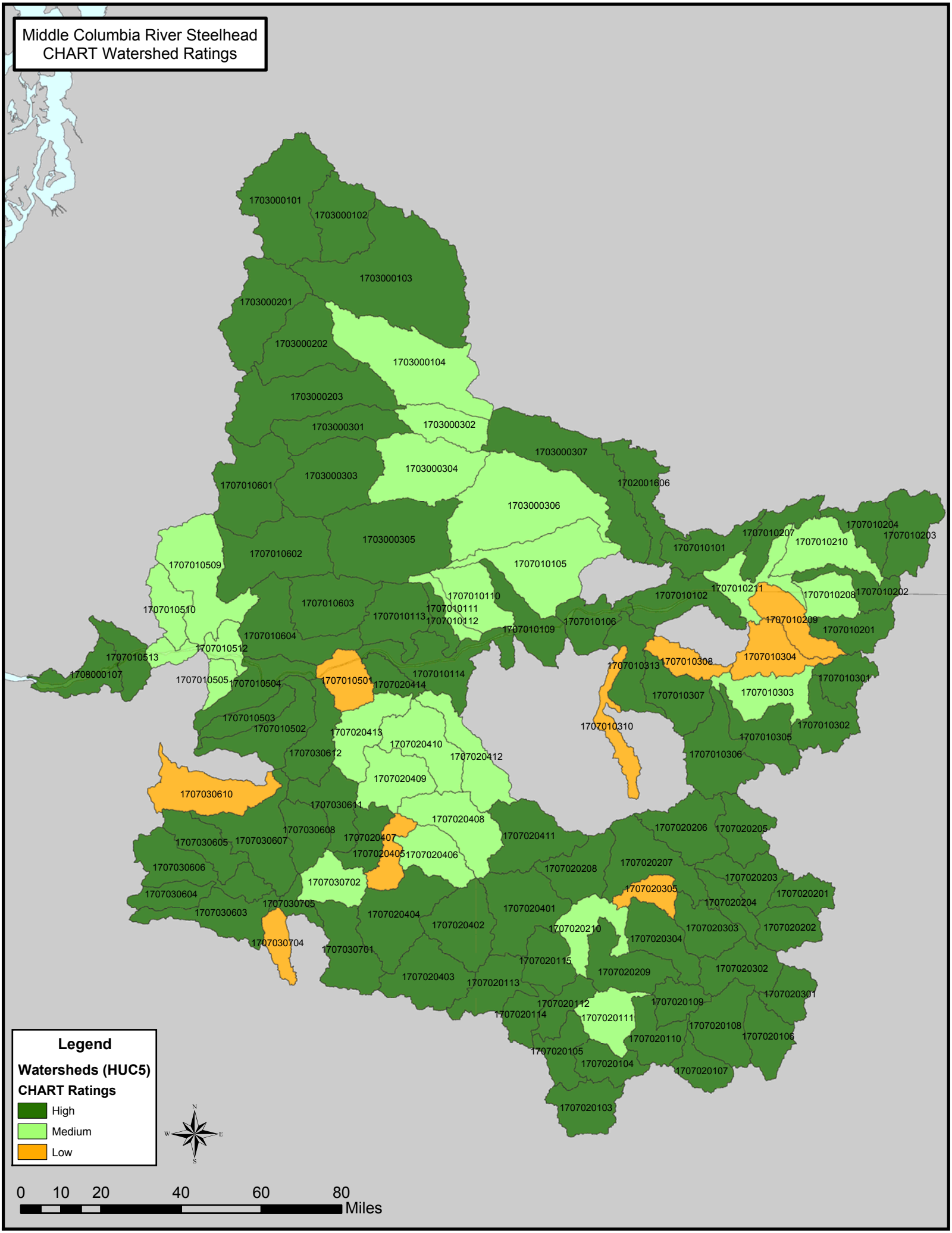
1702001104
1702001002
1702001105
1702001204
1702001003
1702001004
1702001509
1702001604
1702001605
1702001606
1707010101
1707010102
1707010106
1707010109
1707010512
1707010513
1707010114
1708000107
1707010504
1707010501
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
Low
N
W
E
S
0 5 10 20 30 40
Miles


Snake River Basin Steelhead
CHART Watershed Ratings
For individual watershed code
see Migration Corridor map below
Migration Corridor
1706011001
1702001606
1706011004
1706011003
1707010101
1707010102
1707010109
1707010106
1707010513
1707010512
1708000107
1707010504
1707010501
1707010114
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
Low
HUC 5 code = 1706XXXXXX
0
15
30
60
90
120
Miles


Middle Columbia River Steelhead
CHART Watershed Ratings
1703000101
1703000102
1703000103
1703000201
1703000202
1703000104
1703000203
1703000301
1703000302
1703000307
1703000304
1703000303
1707010601
1702001606
1703000306
1703000305
1707010204
1707010203
1707010207
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1707010101
1707010602
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1707010211
1707010208
1707010202
1707010102
1707010603
1707010110
1707010111
1707010510
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1707010112
1707010106
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1707010114
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1707010301
1707010307
1707010303
1707010503
1707010502
1707010310
1707010302
1707020413
1707010305
1707020410
1707030612
1707020412
1707010306
1707020409
1707030610
1707030611
1707020408
1707020206
1707020205
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1707020411
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1707020405
1707020406
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1707030606
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1707020203
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1707030604
1707020204
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1707030603
1707020404
1707020402
1707020303
1707020202
1707020210
1707020304
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1707020302
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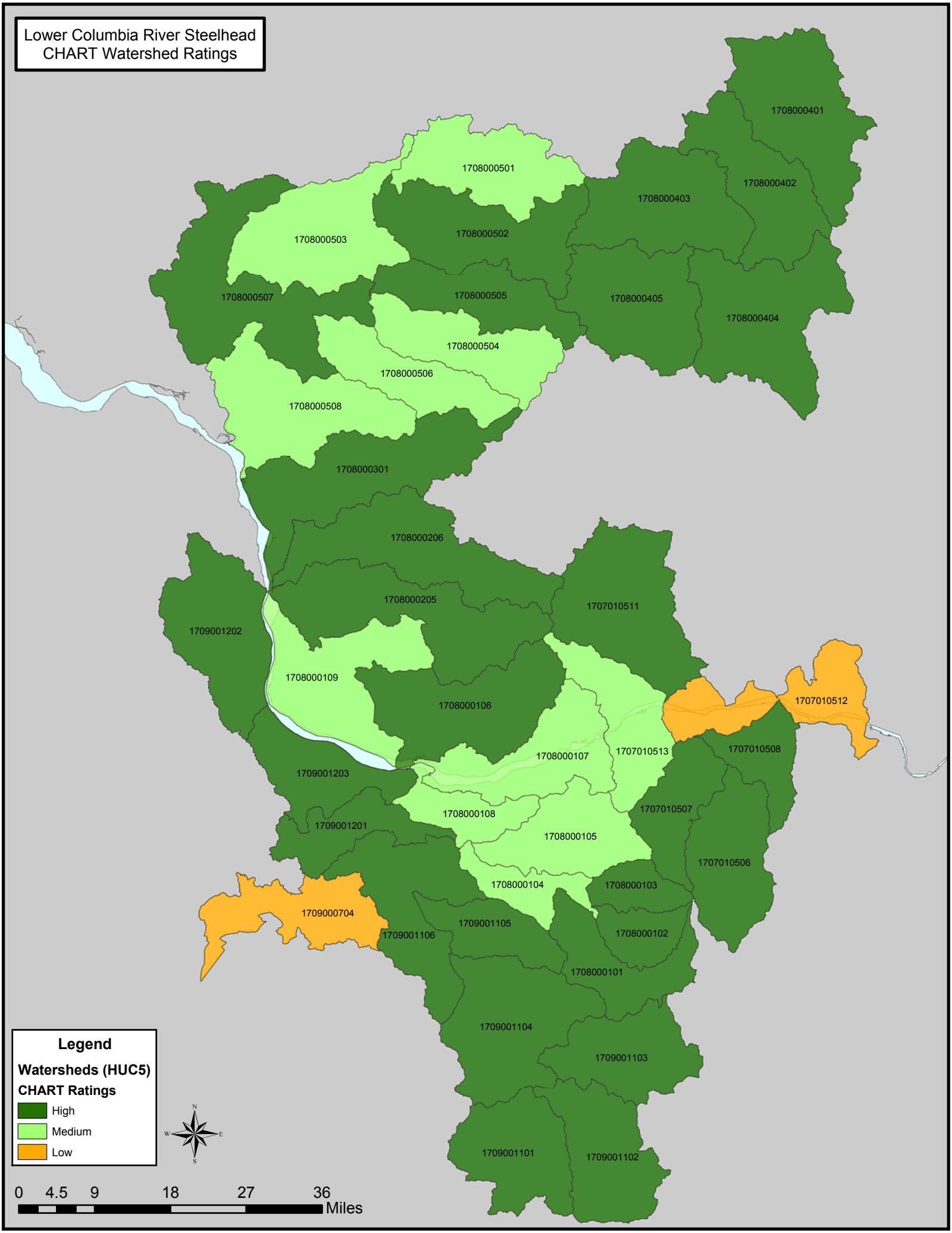
1707020109
1707020114
1707020111
1707020108
1707020110
1707020106
1707020105
1707020104
1707020107
1707020103
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
Low
N
W
E
S
0
10
20
40
60
80
Miles


Lower Columbia River Steelhead
CHART Watershed Ratings
1708000401
1708000501
1708000402
1708000403
1708000503
1708000502
1708000507
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1708000405
1708000404
1708000504
1708000506
1708000508
1708000301
1708000206
1708000205
1707010511
1709001202
1708000109
1708000106
1707010512
1708000107
1707010513
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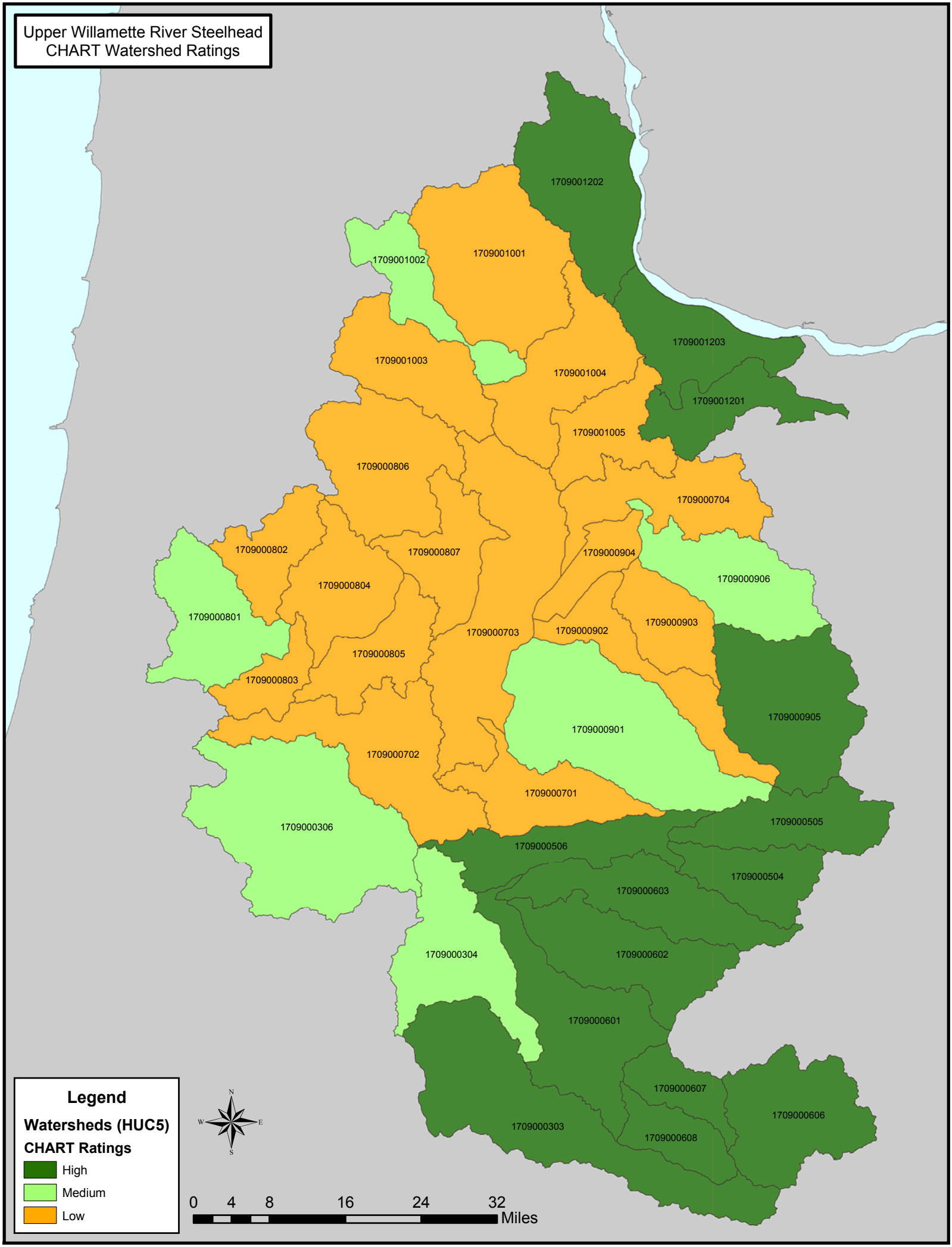
1709001203
1708000108
1707010507
1709001201
1708000105
1707010506
1708000104
1708000103
1709000704
1709001105
1709001106
1708000102
1708000101
1709001104
1709001103
1709001101
1709001102
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
Low
N
W
E
S
0
4.5
9
18
27
36
Miles


Upper Willamette River Steelhead
CHART Watershed Ratings
1709001202
1709001002
1709001001
1709001203
1709001003
1709001004
1709001201
1709001005
1709000806
1709000704
1709000802
1709000807
1709000904
1709000906
1709000804
1709000801
1709000903
1709000703
1709000902
1709000805
1709000803
1709000905
1709000901
1709000702
1709000701
1709000505
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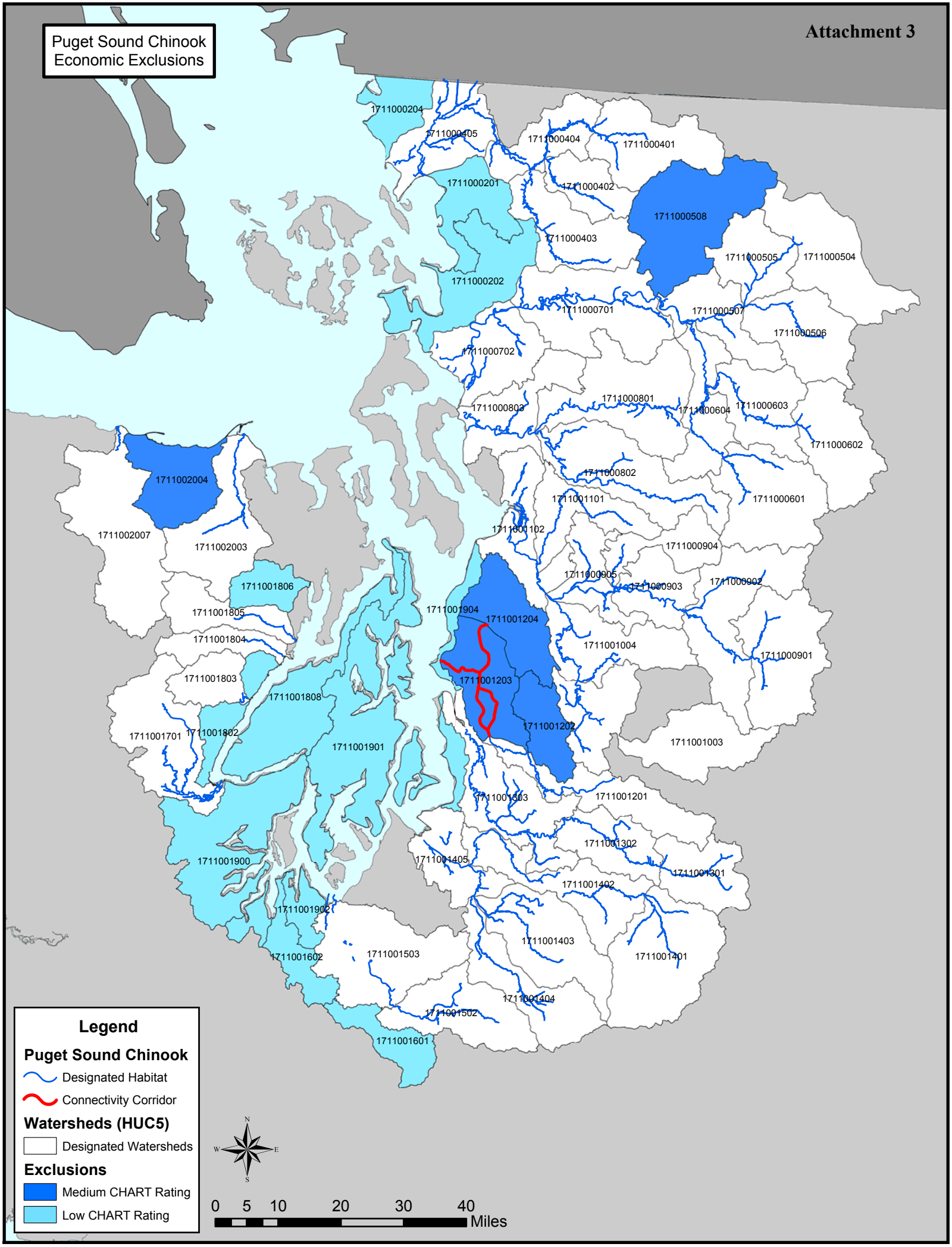
1709000506
1709000504
1709000603
1709000304
1709000602
1709000601
1709000607
1709000606
1709000303
1709000608
Legend
Watersheds (HUC5)
CHART Ratings
High
Medium
Low
N
W
E
S
0
4
8
16
24
32
Miles


Puget Sound Chinook
Economic Exclusions
Attachment 3
1711000204
1711000405
1711000404
1711000401
1711000201
1711000402
1711000508
1711000403
1711000505
1711000504
1711000202
1711000701
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1711000506
1711000702
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1711000803
1711000604
1711000603
1711000602
1711002004
1711000802
1711000601
1711001101
1711002007
1711001102
1711002003
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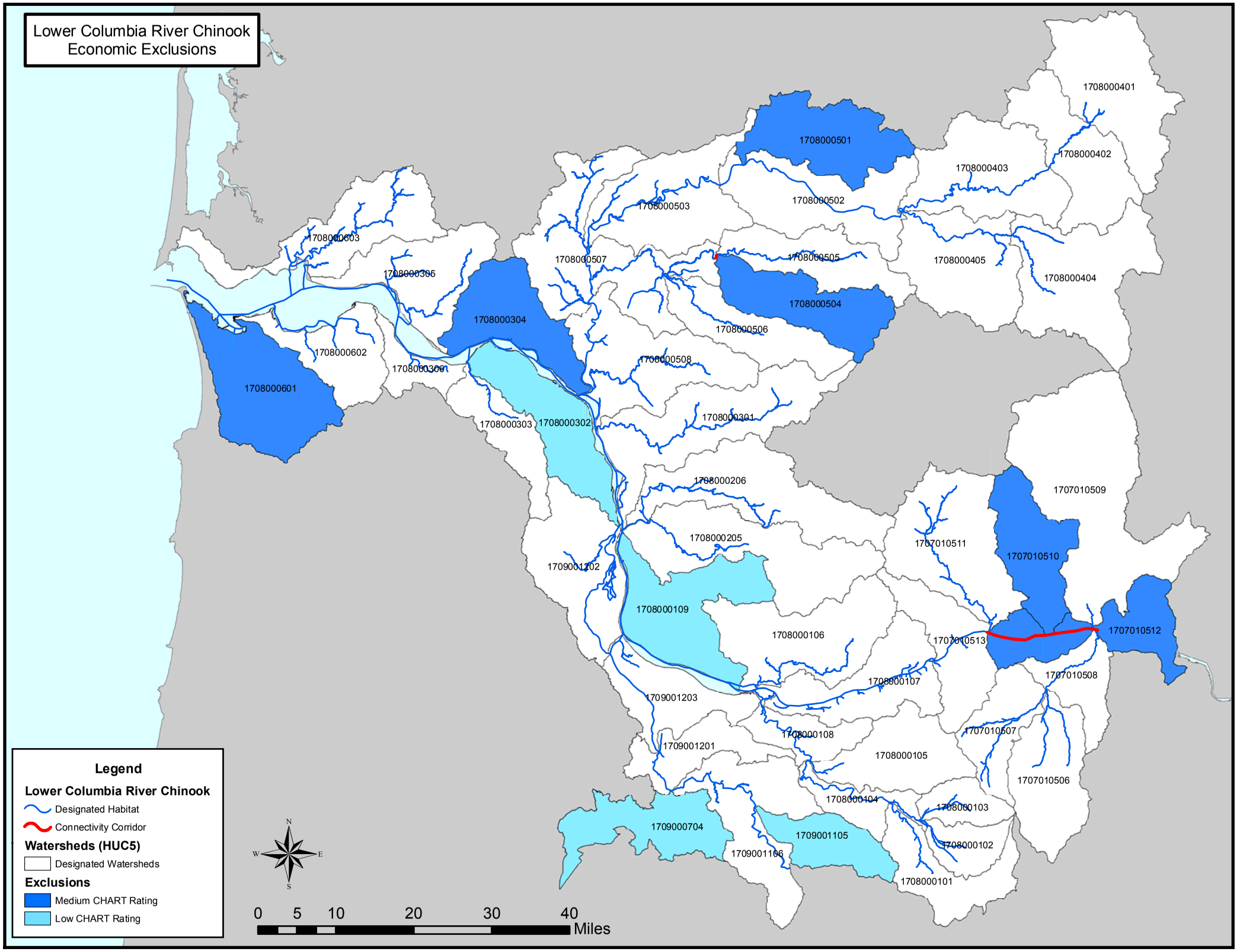
1711000905
1711000903
1711000902
1711001806
1711001904
1711001805
1711001204
1711001804
1711001004
1711000901
1711001803
1711001203
1711001808
1711001202
1711001701
1711001802
1711001003
1711001901
1711001503
1711001201
1711001302
1711001900
1711001405
1711001301
1711001402
1711001902
1711001403
1711001401
1711001602
1711001503
1711001404
1711001502
1711001601
Legend
Puget Sound Chinook
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium CHART Rating
Low CHART Rating
N
W
E
S
0 5 10 20 30 40
Miles


Lower Columbia River Chinook
Economic Exclusions
1708000401
1708000501
1708000402
1708000403
1708000502
1708000503
1708000603
1708000507
1708000505
1708000405
1708000404
1708000305
1708000504
1708000304
1708000506
1708000602
1708000508
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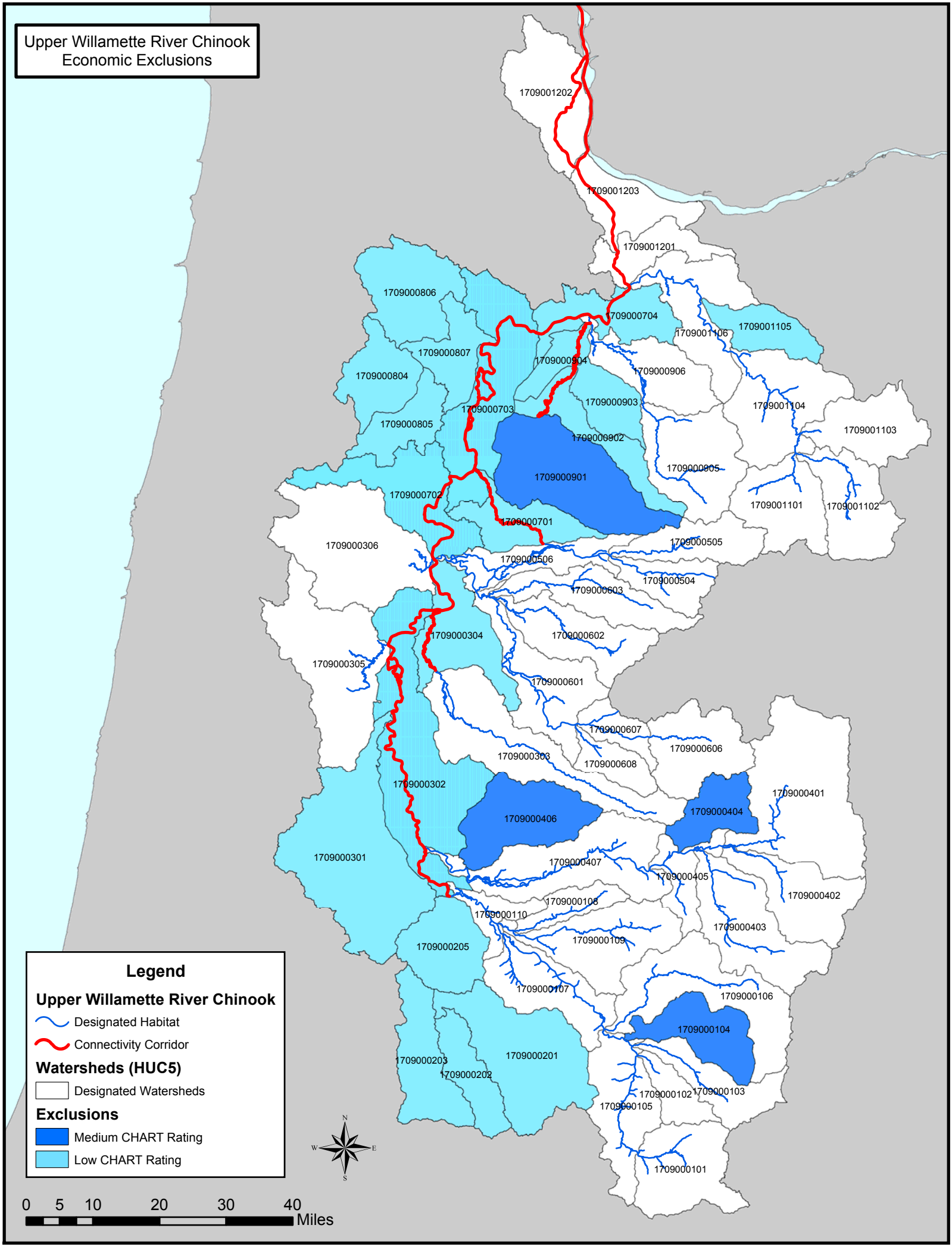
1708000108
1707010507
1709001201
1708000105
1707010506
1708000104
1708000103
1709000704
1709001105
1708000102
1709001106
1708000101
Legend
Lower Columbia River Chinook
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium CHART Rating
Low CHART Rating
N
W
E
S
0
5
10
20
30
40
Miles


Upper Willamette River Chinook
Economic Exclusions
1709001202
1709001203
1709001201
1709000806
1709000704
1709001106
1709001105
1709000807
1709000904
1709000906
1709000804
1709000903
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1709000805
1709000902
1709001103
1709000905
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1709000603
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1709000305
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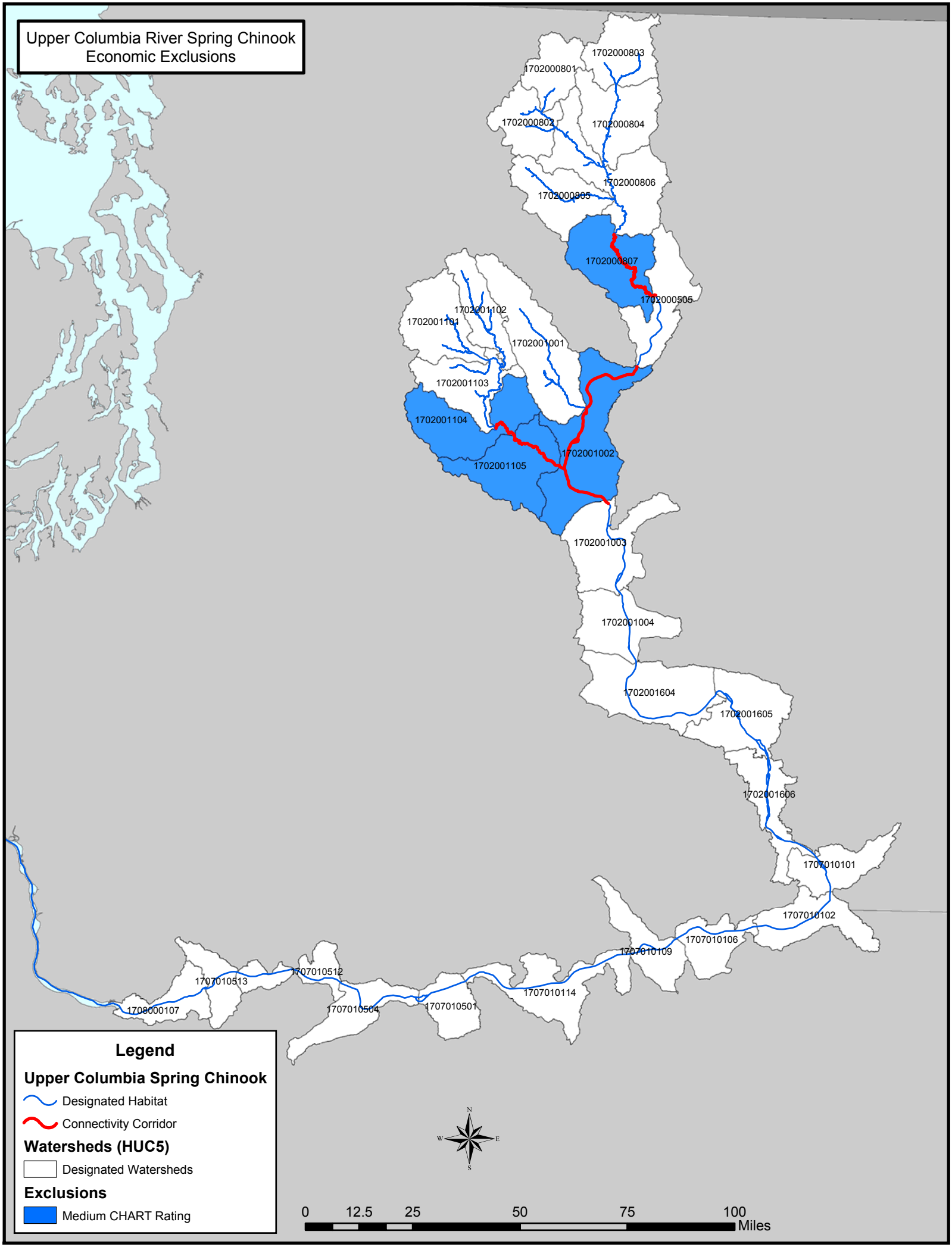
1709000107
1709000106
1709000104
1709000203
1709000201
1709000202
1709000102
1709000103
1709000105
1709000101
Legend
Upper Willamette River Chinook
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium CHART Rating
Low CHART Rating
N
W
E
S
0 5 10 20 30 40
Miles


Upper Columbia River Spring Chinook
Economic Exclusions
1702000803
1702000801
1702000802
1702000804
1702000806
1702000805
1702000807
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1702001101
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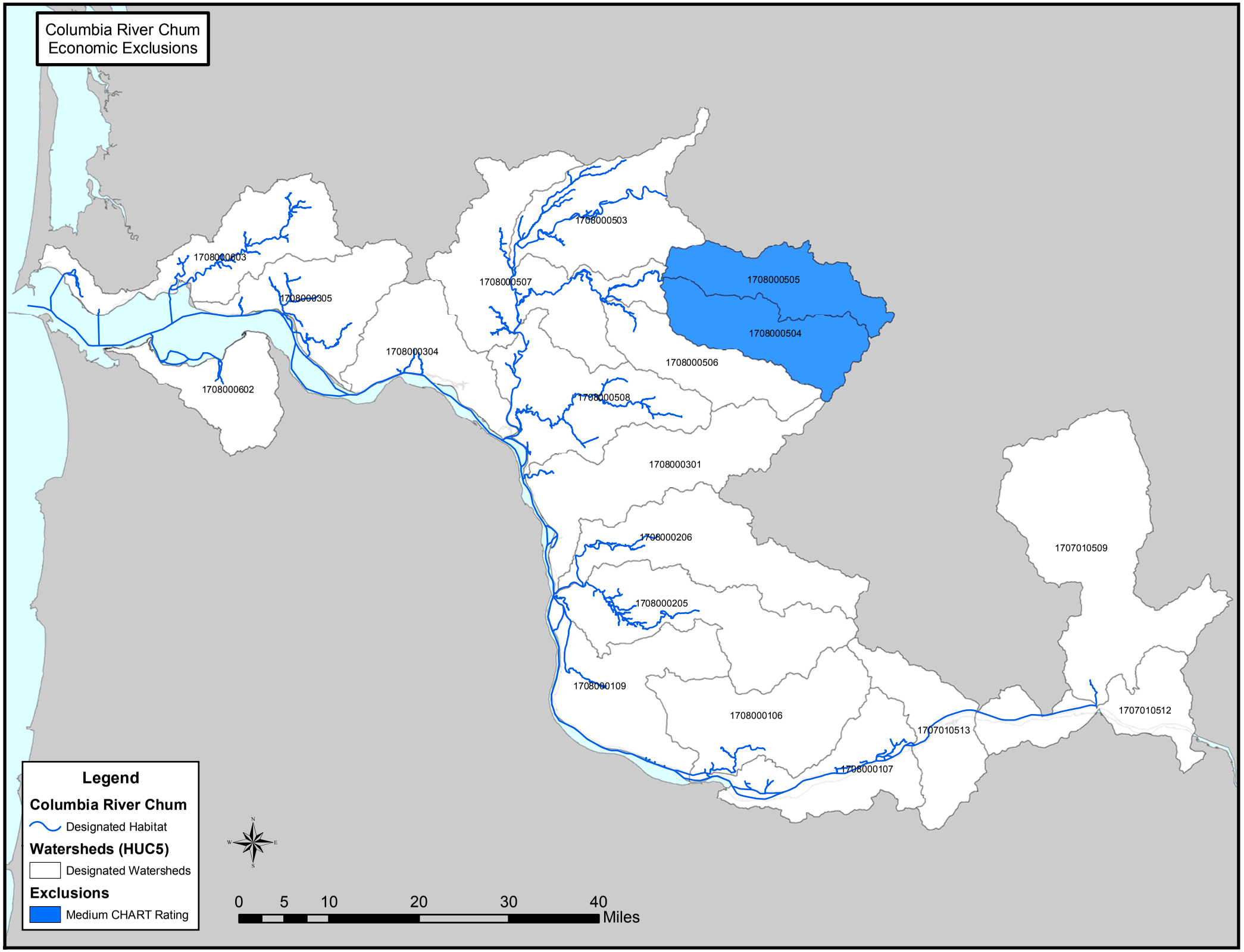
1707010102
1707010106
1707010109
1707010114
1707010501
1707010504
1707010512
1707010513
1708000107
Legend
Upper Columbia Spring Chinook
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium CHART Rating
N
W
E
S
0
12.5
25
50
75
100
Miles


Columbia River Chum
Economic Exclusions
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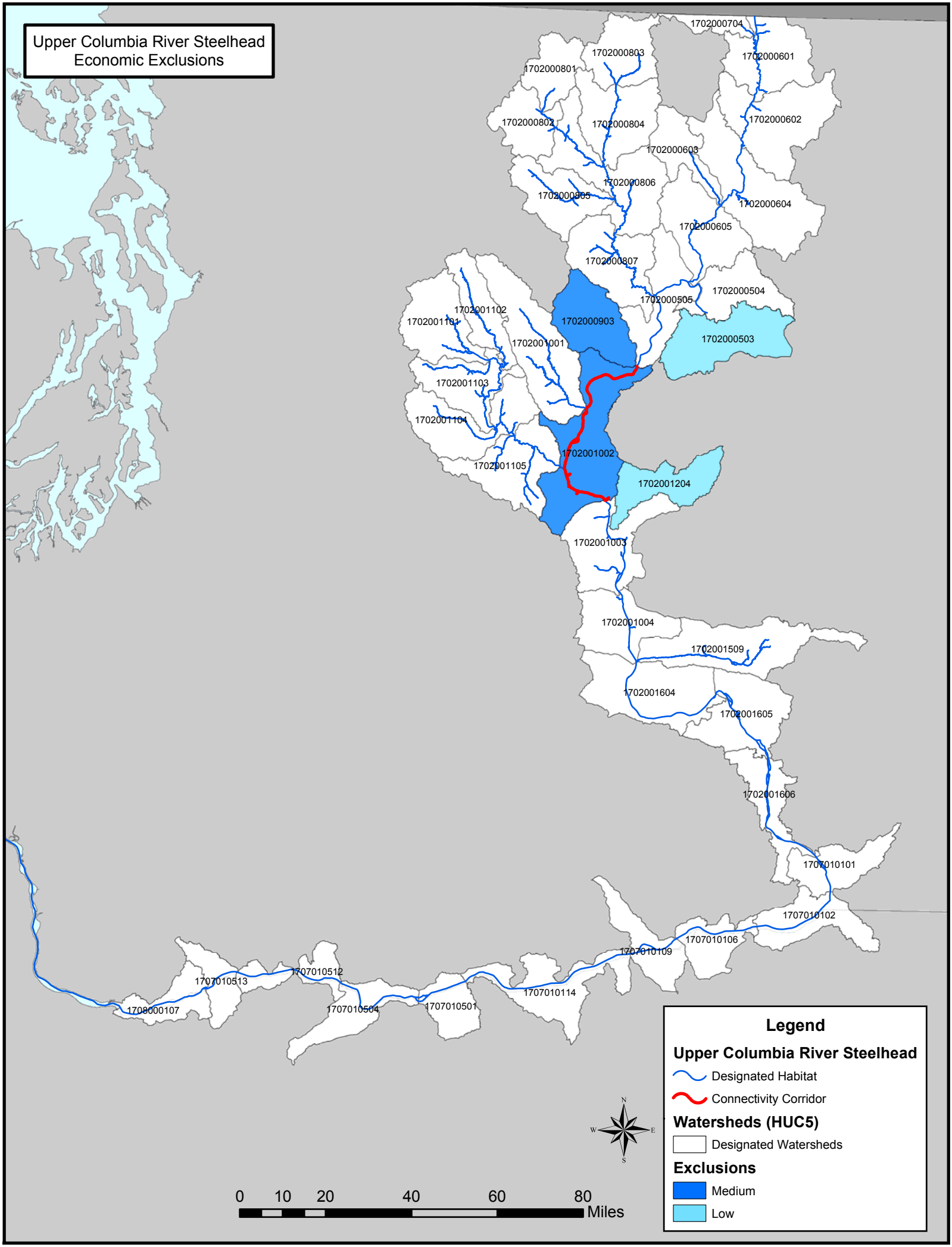
1708000507
1708000505
1708000305
1708000504
1708000304
1708000506
1708000602
1708000508
1708000301
1708000206
1707010509
1708000205
1708000109
1708000106
1707010512
1707010513
1708000107
Legend
Columbia River Chum
Designated Habitat
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium CHART Rating
N
W
E
S
0
5
10
20
30
40
Miles


Upper Columbia River Steelhead
Economic Exclusions
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1702000803
1702000601
1702000801
1702000802
1702000804
1702000602
1702000603
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1702000805
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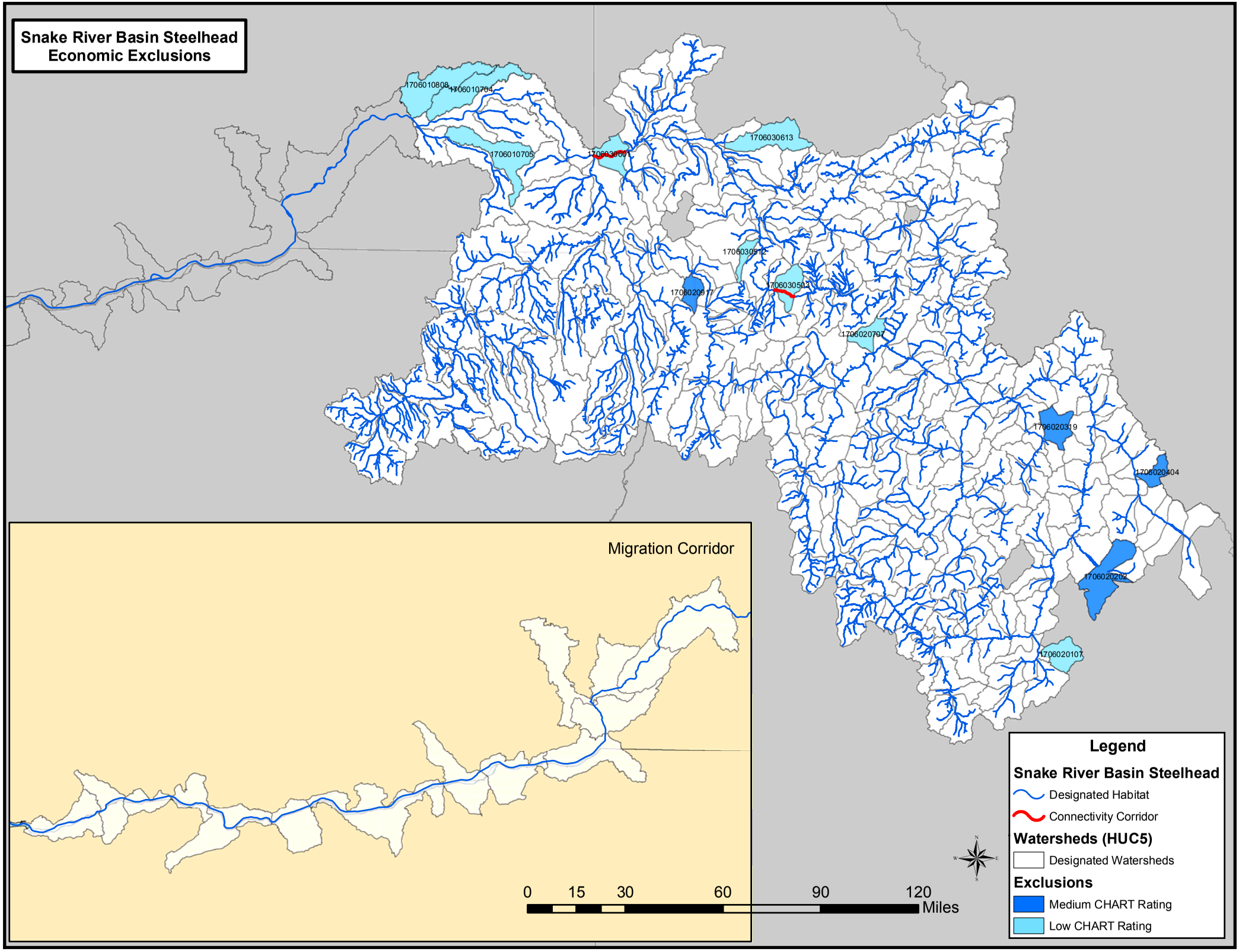
1707010106
1707010109
1707010114
1707010512
1707010513
1707010504
1707010501
1708000107
Legend
Upper Columbia River Steelhead
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium
Low
N
W
E
S
0
10
20
40
60
80
Miles


Snake River Basin Steelhead
Economic Exclusions
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1706030601
1706030613
1706030512
1706020917
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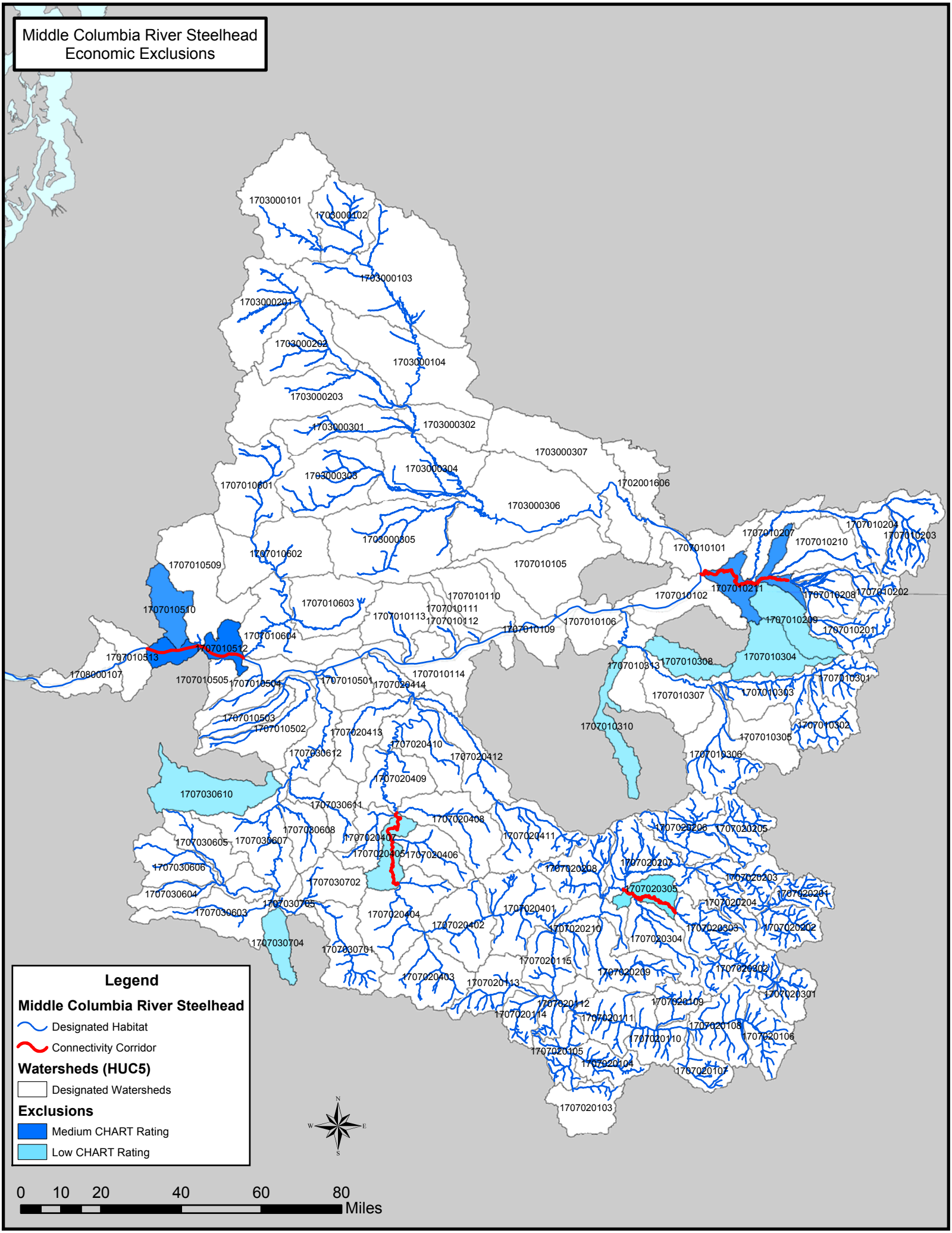
1706020319
1706020404
1706020202
1706020107
Migration Corridor
0
15
30
60
90
120
Miles
Legend
Snake River Basin Steelhead
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium CHART Rating
Low CHART Rating


Middle Columbia River Steelhead
Economic Exclusions
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1703000202
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1703000203
1703000301
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1707030702
1707020203
1707020305
1707020201
1707030604
1707030705
1707020204
1707020401
1707030603
1707020404
1707020402
1707020210
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1707030701
1707020115
1707020209
1707020302
1707020403
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1707020301
1707020112
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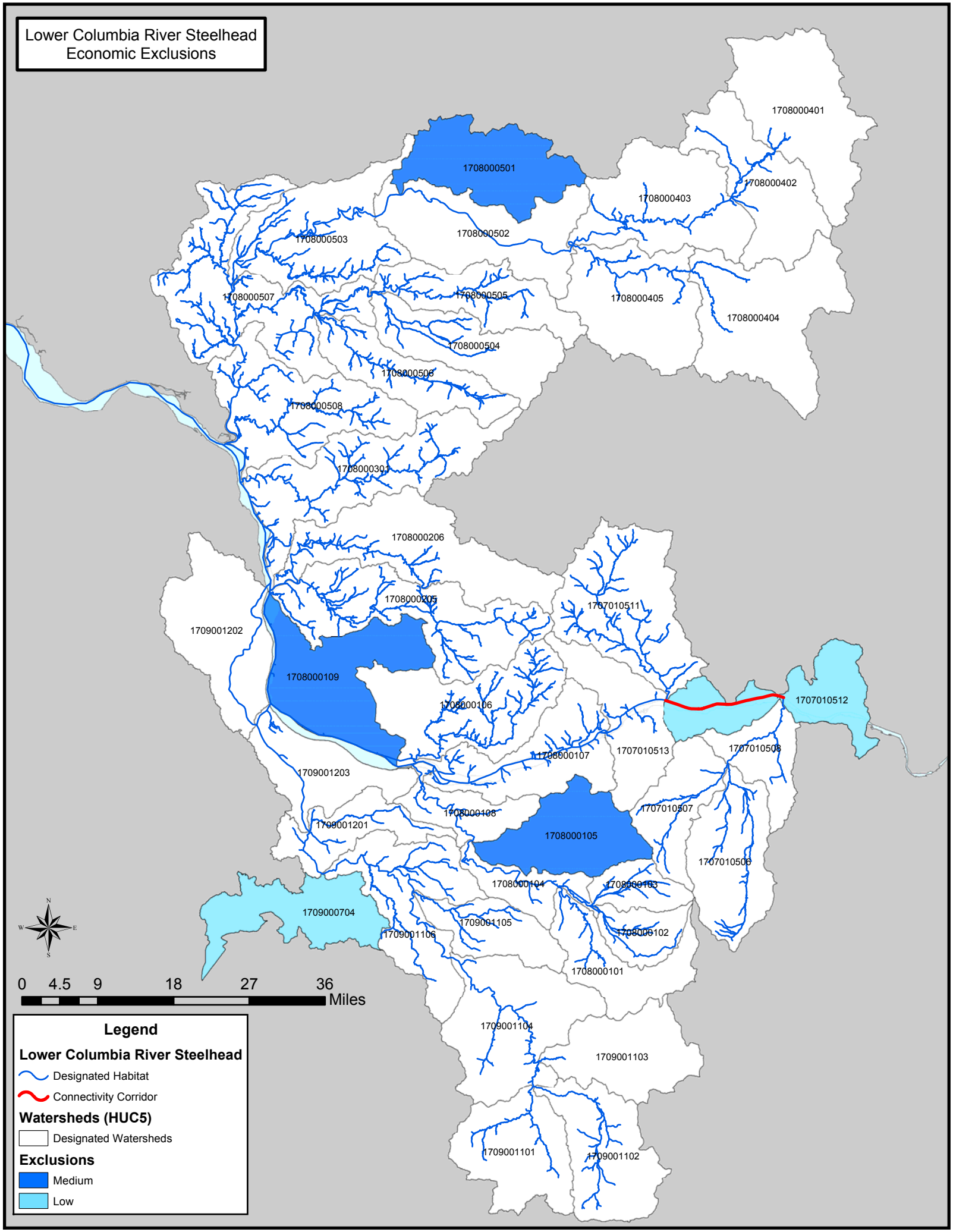
1707020114
1707020111
1707020108
1707020110
1707020106
1707020105
1707020104
1707020107
1707020103
Legend
Middle Columbia River Steelhead
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium CHART Rating
Low CHART Rating
N
W
E
S
0
10
20
40
60
80
Miles


Lower Columbia River Steelhead
Economic Exclusions
1708000401
1708000501
1708000402
1708000403
1708000502
1708000503
1708000507
1708000505
1708000405
1708000404
1708000504
1708000506
1708000508
1708000301
1708000206
1708000205
1707010511
1709001202
1708000109
1707010512
1708000106
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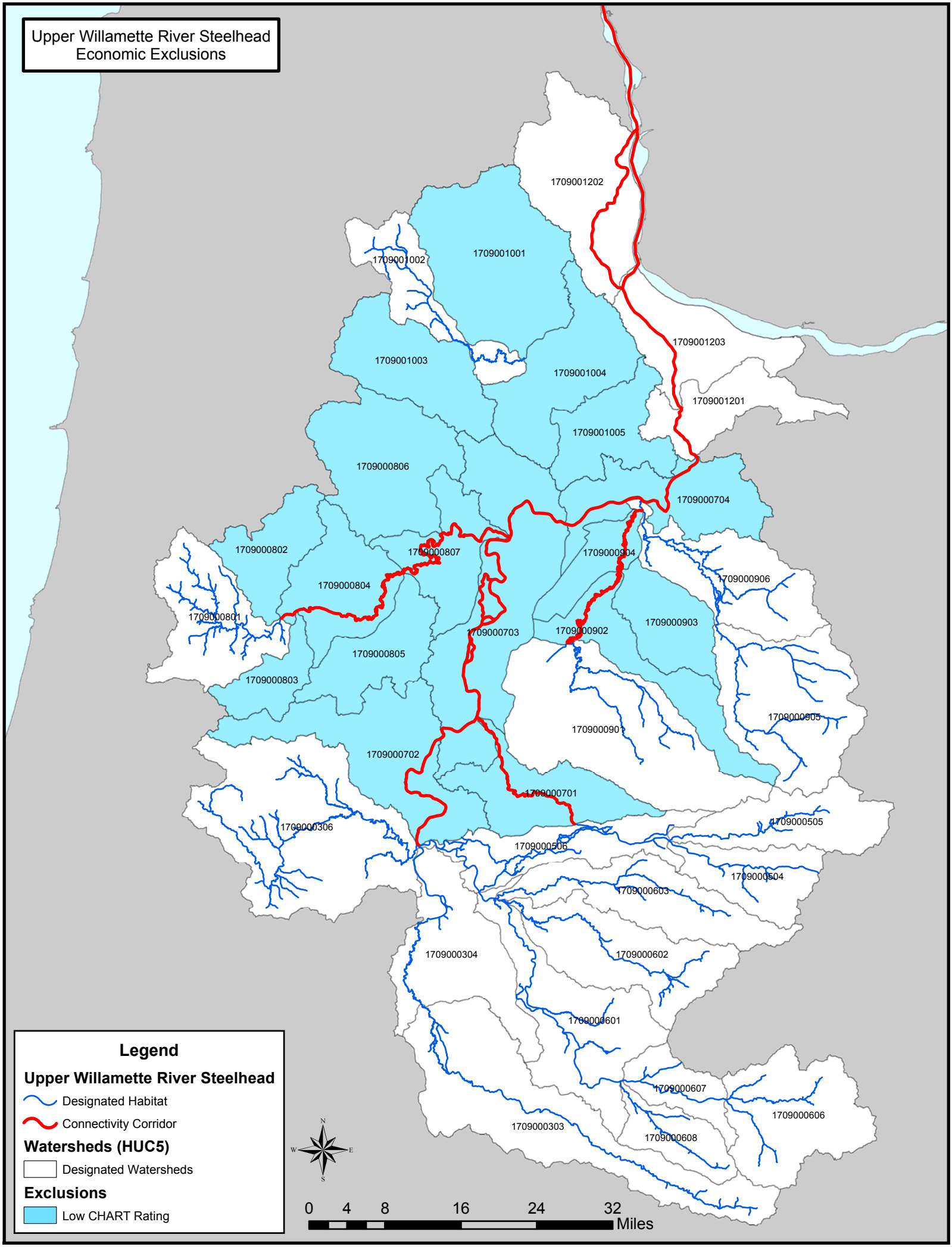
1708000104
1708000103
1709000704
1709001105
1709001106
1708000102
1708000101
1709001104
1709001103
1709001101
1709001102
0 4.5 9 18 27 36
Miles
Legend
Lower Columbia River Steelhead
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Medium
Low


Upper Willamette River Steelhead
Economic Exclusions
1709001202
1709001002
1709001001
1709001203
1709001003
1709001004
1709001201
1709001005
1709000806
1709000704
1709000802
1709000807
1709000904
1709000906
1709000804
1709000801
1709000903
1709000703
1709000902
1709000805
1709000803
1709000905
1709000901
1709000702
1709000701
1709000306
1709000505
1709000506
1709000504
1709000603
1709000304
1709000602
1709000601
1709000607
1709000606
1709000303
1709000608
Legend
Upper Willamette River Steelhead
Designated Habitat
Connectivity Corridor
Watersheds (HUC5)
Designated Watersheds
Exclusions
Low CHART Rating
N
W
E
S
0
4
8
16
24
32
Miles