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Endangered and Threatened Species: Final Threatened Listing Determination, Final Protective Regulations, and Final Designation of Critical Habitat for the Oregon Coast Evolutionarily Significant Unit of Coho Salmon; Final Rule

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 223 and 226

[Docket No. 071227892–7894–01]

RIN 0648–AW39

Endangered and Threatened Species: Final Threatened Listing Determination, Final Protective Regulations, and Final Designation of Critical Habitat for the Oregon Coast Evolutionarily Significant Unit of Coho Salmon

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: We are issuing a final determination to list the Oregon Coast coho salmon (*Oncorhynchus kisutch*) evolutionarily significant unit (ESU) as a threatened species under the Endangered Species Act (ESA). We are also issuing final protective regulations and a final critical habitat designation for the Oregon Coast coho ESU.

DATES: The listing determination, protective regulations, and designated critical habitat are effective on May 12, 2008. With respect to the protective regulations, the take prohibitions for the Oregon Coast coho ESU do not apply to research and enhancement activities specified in an application for a permit or approval under the protective regulations, provided that the application has been received by the Assistant Administrator for Fisheries (AA), NOAA, no later than June 10, 2008. This ''grace period'' for pending research and enhancement applications will remain in effect until the issuance or denial of authorization, or March 31, 2009, whichever occurs earliest.

ADDRESSES: NMFS, Protected Resources Division, 1201 NE Lloyd Boulevard, Suite 1100, Portland, Oregon 97232.

FOR FURTHER INFORMATION CONTACT: Scott Rumsey, NMFS, Northwest Region, Protected Resources Division, at (503) 872–2791, or Marta Nammack, NMFS, Office of Protected Resources, at (301) 713–1401. Reference materials regarding this determination are available upon request or on the Internet at *http://www.nwr.noaa.gov.*

SUPPLEMENTARY INFORMATION:

Previous Federal ESA Actions Related to Oregon Coast Coho

In 1995, we completed a comprehensive status review of West Coast coho salmon (Weitkamp *et al.*, 1995) that resulted in proposed listing determinations for three coho ESUs, including a proposal to list the Oregon Coast coho ESU as a threatened species (60 FR 38011; July 25, 1995). On October 31, 1996, we announced a 6-month extension of the final listing determination for the ESU, pursuant to section 4(b)(6)(B)(I) of the ESA, noting substantial disagreement regarding the sufficiency and accuracy of the available data relevant to the assessment of extinction risk and the evaluation of protective efforts (61 FR 56211). On May 6, 1997, we withdrew the proposal to list the Oregon Coast coho ESU as threatened, based in part on conservation measures contained in the Oregon Coastal Salmon Restoration Initiative (later renamed the Oregon Plan for Salmon and Watersheds; hereafter referred to as the Oregon Plan) and an April 23, 1997, Memorandum of Agreement (MOA) between NMFS and the State of Oregon which further defined Oregon's commitment to salmon conservation (62 FR 24588). We concluded that implementation of harvest and hatchery reforms, and habitat protection and restoration efforts under the Oregon Plan and the MOA substantially reduced the risk of extinction faced by the Oregon Coast coho ESU. On June 1, 1998, the U.S. District Court for the District of Oregon issued an opinion finding that our May 6, 1997, determination to not list Oregon Coast coho was arbitrary and capricious (*Oregon Natural Resources Council* v. *Daley,* 6 F. Supp. 2d 1139 (D. Or. 1998)). The Court vacated our determination to withdraw the proposed rule to list the Oregon Coast coho ESU and remanded the determination to NMFS for further consideration. On August 10, 1998, we issued a final rule listing the Oregon Coast coho ESU as threatened (63 FR 42587), basing the determination solely on the information and data contained in the 1995 status review (Weitkamp *et al.*, 1995) and the 1997 proposed rule.

In 2001 the U.S. District Court in Eugene, Oregon, set aside the 1998 threatened listing of the Oregon Coast coho ESU (*Alsea Valley Alliance* v. *Evans,* 161 F. Supp. 2d 1154, (D. Or. 2001)) (Alsea). In response to the *Alsea* ruling and several listing and delisting petitions, we announced that we would conduct an updated status review of 27 West Coast salmonid ESUs, including the Oregon Coast coho ESU (67 FR 6215, February 11, 2002; 67 FR 48601, July 25, 2002).

In 2003 we convened the Pacific Salmonid Biological Review Team (BRT) (an expert panel of scientists from several Federal agencies including NMFS, the U.S. Fish and Wildlife Service (FWS), and the U.S. Geological Survey (USGS)) to review the extinction risks of naturally spawning populations in the 27 ESUs under review, including the Oregon Coast coho ESU (Good *et al.*, 2005; NMFS, 2003a). In making its recommendation, the BRT used a process where each member of the BRT was given 10 votes to divide among three conclusions. Members were allowed to assign votes to more than one conclusion, allowing them to express their relative degree of confidence in particular conclusions. The three options were ''In Danger of Extinction,'' ''Likely to Become Endangered,'' and ''Not Warranted.'' Fifty-six percent of the votes supported the conclusion that naturally spawning Oregon coast coho were likely to become endangered in the foreseeable future, and 44 percent supported the conclusion that naturally spawning Oregon coast coho was ''Not Warranted'' (that is, not likely to become in danger of extinction in the foreseeable future). The BRT noted considerable uncertainty regarding the future viability of the ESU given the uncertainty in predicting future ocean conditions for coho survival, as well as uncertainty in whether current freshwater habitats are of sufficient quality and quantity to support the recent high abundance levels and sustain populations during future downturns in ocean conditions. Although the BRT couched its conclusion in terms of the statutory definition of a threatened species (that is, not in danger of extinction, but likely to become endangered in the foreseeable future), the BRT's conclusion did not constitute a recommendation to list the species. Our listing determination also considered the risks and benefits from artificial propagation programs included in the ESU, efforts being made to protect the species, and the five factors listed under section 4(a)(1) of the ESA.

On June 14, 2004, based primarily on the BRT voting results, we proposed to list the Oregon Coast coho ESU as a threatened species (69 FR 33102). However, the proposed listing recognized that further information would likely become available and that this information could affect the outcome of the final determination. In the proposed rule, we noted that Oregon was initiating a comprehensive assessment of the viability of the Oregon Coast coho ESU and of the adequacy of actions under the Oregon Plan for conserving Oregon Coast coho. As part of that proposed rule we proposed amendments to existing protective regulations issued under ESA section

4(d) (''4(d) regulations'') for all threatened West Coast salmon and steelhead (50 CFR 223.203). These amendments were needed to: (1) Provide flexibility in fisheries and hatchery management; and (2) simplify and clarify the existing regulations so that they may be more efficiently and effectively accessed and interpreted by all affected parties.

On December 14, 2004, we proposed designations of critical habitat for 13 ESUs of Pacific salmon and steelhead in the Pacific Northwest, including the Oregon Coast coho ESU (69 FR 74572). We proposed critical habitat in 72 of 80 occupied watersheds, contained in 13 subbasins, totaling approximately 6,665 stream miles along the Oregon Coast, south of the Columbia River and north of Cape Blanco (Oregon). The estimated economic impact of the areas proposed for critical habitat was approximately $15.7 million. Eight occupied watersheds were proposed for exclusion because the high benefits of exclusion (due to economic impacts) outweighed the low benefits of inclusion (due to the low inherent conservation value for the listed species). These excluded watersheds included approximately 134 stream miles and represented a 15 percent reduction (approximately $2.75 million) in the economic impact of the proposed designation. To assess economic impacts we measured the co-extensive impacts because, based on the existing record, we could not distinguish between the costs associated with the species' listing from the costs of separately designating critical habitat.

In January 2005 the State of Oregon released a draft Oregon Coastal Coho Assessment (Oregon's Draft Viability Assessment), which (1) evaluated the current viability of the Oregon Coast coho ESU, and (2) evaluated the certainty of implementation and effectiveness of the Oregon Plan measures in addressing the factors for decline of the Oregon Coast coho ESU. The latter evaluation was intended to satisfy the joint NMFS—FWS Policy on Evaluating Conservation Efforts (''PECE''; 68 FR 15100; March 28, 2003). Oregon's Draft Viability Assessment concluded that the Oregon Coast coho ESU is currently viable and that measures under the Oregon Plan have stopped, if not reversed, the deterioration of Oregon Coast coho habitats. The Draft Viability Assessment also concluded that it is highly likely that existing monitoring efforts would detect any significant future deterioration in the ESU's viability, or degradation of environmental condition, allowing a timely and appropriate response to conserve the ESU. On February 9, 2005, we published a notice of availability of Oregon's Draft Viability Assessment for public review and comment in the **Federal Register** (70 FR 6840) and noted that information presented in the draft and final assessments would be considered in making the final listing determination for the Oregon Coast coho ESU.

We forwarded the public comments we received on Oregon's Draft Viability Assessment, as well as our technical reviews, for Oregon's consideration in developing its final assessment. The public comments and our review highlighted areas of uncertainty or disagreement regarding the sufficiency and accuracy of Oregon's Draft Viability Assessment, including: the assumption that Oregon Coast coho populations are inherently resilient at low abundance, and that this compensatory response will prevent extinction during periods of low marine survival; the apparent de-emphasis of abundance as a useful indicator of extinction risk; assumptions regarding the duration and severity of future periods of unfavorable marine and freshwater conditions; the ability of monitoring and adaptive management efforts to detect population declines or habitat degradation, and to identify and implement necessary protective measures; and the ability of Oregon Plan measures to halt or reverse habitat degradation once detected.

On May 13, 2005, Oregon issued its final Oregon Coastal Coho Assessment (Oregon's Final Viability Assessment). Oregon's Final Viability Assessment included several changes intended to address concerns raised regarding the sufficiency and accuracy of the draft assessment. Oregon's Final Viability Assessment concluded that: (1) The Oregon Coast coho ESU is viable under current conditions, and should be sustainable through a future period of adverse environmental conditions (including a prolonged period of poor ocean productivity); (2) given the assessed viability of the ESU, the quality and quantity of habitat is necessarily sufficient to support a viable ESU; and (3) the integration of laws, adaptive management programs, and monitoring efforts under the Oregon Plan will maintain and improve environmental conditions and the viability of the ESU into the foreseeable future.

On June 28, 2005 (70 FR 37217), we announced a 6-month extension of the final listing determination for the Oregon Coast coho ESU, finding that ''there is substantial disagreement regarding the sufficiency or accuracy of the available data relevant to the determination * * * for the purposes of soliciting additional data'' (section 4(b)(6)(B)(i) of the ESA). We announced a 30-day public comment period to solicit information regarding the validity of Oregon's Final Viability Assessment, particularly in light of the concerns raised with respect to Oregon's Draft Viability Assessment. In September 2005 we issued final critical habitat designations for 12 Pacific Northwest ESUs (70 FR 52685; September 2, 2005), but we did not issue a final critical habitat designation for Oregon Coast coho because it was only proposed for listing at that time.

On January 19, 2006, we issued a final determination that listing the Oregon Coast coho ESU under the ESA was not warranted (71 FR 3033). As part of this determination, we withdrew the proposed ESA section 4(d) regulations and critical habitat designation for the ESU. In reaching our determination not to list Oregon Coast coho, we found that the BRT's slight majority opinion that the ESU is ''likely to become endangered'' and the conclusion of the Oregon Final Viability Assessment that the ESU is viable represented competing reasonable inferences from the available scientific information and considerable associated uncertainty. The difference of opinion centered on whether the ESU was at risk because of the ''threatened destruction, modification, or curtailment of its habitat or range.'' We conducted an analysis of current habitat status and likely future habitat trends (NMFS, 2005a) and found that: (1) The sufficiency of current habitat conditions was unknown; and (2) likely future habitat trends were mixed (i.e., some habitat elements were likely to improve, some were likely to decline, others were likely to remain in their current condition). We concluded that there was insufficient evidence to support the conclusion that the ESU was more likely than not to become an endangered species in the foreseeable future throughout all or a significant portion of its range.

Our decision not to list the Oregon Coast coho ESU was challenged in *Trout Unlimited*. On October 9, 2007, the U.S. District Court for the District of Oregon invalidated our January 2006 decision not to list Oregon Coast coho (*Trout Unlimited* v. *Lohn, Civ. No. 06–01493 ST* (*D. Oreg., October 9, 2007*). The Court found that Oregon's Viability Assessment does not represent the best available science, and that we improperly considered it in reaching our final listing decision. The Court ordered us to issue a new final listing rule consistent with the ESA. This listing decision has been made in compliance with the Court's order.

ESA Statutory Provisions

Listing Determinations

The ESA defines an endangered species as one that is in danger of extinction throughout all or a significant portion of its range, and a threatened species as one that is likely to become endangered in the foreseeable future (sections 3(6) and 3(20), respectively). The statute requires us to determine whether any species is endangered or threatened because of any of five factors: the present or threatened destruction of its habitat, overexploitation, disease or predation, the inadequacy of existing regulatory mechanisms, or any other natural or manmade factors (section 4(a)(1)(A)–(E)). We are to make this determination based solely on the best available scientific information after conducting a review of the status of the species and taking into account any efforts being made by states or foreign governments to protect the species. The focus of our evaluation of these five factors is to evaluate whether and to what extent a given factor represents a threat to the future survival of the species. The focus of our consideration of protective efforts is to evaluate whether these efforts substantially have and will continue to address the identified threats and so ameliorate a species' risk of extinction. In making our listing determination, we must consider all factors that may affect the future viability of the species, including whether regulatory and conservation programs are inadequate and allow threats to the species to persist or worsen, or whether these programs are likely to mitigate threats to the species and reduce its extinction risk. The steps we follow in implementing this statutory scheme are to: review the status of the species, analyze the factors listed in section 4(a)(1) of the ESA to identify threats facing the species, assess whether certain protective efforts mitigate these threats, and make our best prediction about the species' future persistence.

As indicated above, the PECE provides direction for considering protective efforts identified in conservation agreements, conservation plans, management plans, or similar documents (developed by Federal agencies, state and local governments, tribal governments, businesses, organizations, and individuals) that have not yet been implemented, or have been implemented but have not yet demonstrated effectiveness. The policy articulates several criteria for evaluating the certainty of implementation and effectiveness of protective efforts to aid in determining whether a species warrants listing under the ESA. Evaluation of the certainty that an effort will be implemented includes whether: the necessary resources (e.g., funding and staffing) are available; the requisite agreements have been formalized such that the necessary authority and regulatory mechanisms are in place; there is a schedule for completion and evaluation of the stated objectives; and (for voluntary efforts) the necessary incentives are in place to ensure adequate participation. The evaluation of the certainty of an effort's effectiveness is made on the basis of whether the effort or plan: Establishes specific conservation objectives; identifies the necessary steps to reduce threats or factors for decline; includes quantifiable performance measures for the monitoring of compliance and effectiveness; incorporates the principles of adaptive management; and is likely to improve the species' viability at the time of the listing determination.

PECE also notes several important caveats. Satisfaction of the above mentioned criteria for implementation and effectiveness establishes a given protective effort as a candidate for consideration, but does not mean that an effort will ultimately change the risk assessment. The policy stresses that, just as listing determinations must be based on the viability of the species at the time of review, so they must be based on the state of protective efforts at the time of the listing determination. The PECE does not provide explicit guidance on how protective efforts affecting only a portion of a species' range may affect a listing determination, other than to say that such efforts will be evaluated in the context of other efforts being made and the species' overall viability.

Protective Regulations

ESA section 9(a) take and other prohibitions (16 U.S.C. 1538(a)(1)(B)) apply to all species listed as endangered. Hatchery stocks determined to be part of endangered ESUs are afforded all of the full section 9 protections. In the case of threatened species, ESA section 4(d) leaves it to the Secretary of Commerce's (Secretary) discretion to determine whether and to what extent regulatory requirements may be appropriate, by directing the Secretary to issue regulations determined to be necessary and advisable for the conservation of the species. We have flexibility under section 4(d) to tailor protective regulations based on the contributions of available conservation measures. The 4(d) regulations may prohibit, with respect to threatened species, some or all of the acts which section 9(a) of the ESA prohibits with respect to endangered species.

Critical Habitat

Section 3 of the ESA defines critical habitat as (1) specific areas within the geographical area occupied by the species at the time of listing, on which are found those physical or biological features that are essential to the conservation of the listed species and that may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of a listed species. In designating critical habitat our regulations direct us to focus on ''primary constituent elements,'' or PCEs, in identifying these physical or biological features. Section 4 of the ESA requires us to consider the economic impacts, impacts on national security, and other relevant impacts of specifying any particular area as critical habitat. We may exclude any area from critical habitat if we determine that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless the failure to designate such an area will result in the extinction of the species.

At the time of a proposed listing determination, ESA section 4(a)(3) and our regulations require us to specify critical habitat to the maximum extent ''prudent and determinable.'' Critical habitat designation is not prudent if: (1) The species is threatened by taking or other human activity and the identification of critical habitat can be expected to increase such threat(s); or (2) critical habitat designation would not be beneficial to the species. Critical habitat is not determinable if: (1) Sufficient information is lacking to perform the required analyses of the impact of the designation; or (2) the biological needs of the species are not sufficiently well known to identify an area as critical habitat. In our proposed rule to designate specific areas as critical habitat (69 FR 74572; December 14, 2004), we determined that designating critical habitat for this species is prudent and determinable. The record continues to support this determination.

The ESA requires that a final regulation designating critical habitat be published concurrently with the final determination listing a species as threatened or endangered, unless: (1) It is essential to the conservation of such species that the species be listed promptly (e.g., in instances when a species is listed by emergency rule); or (2) critical habitat of such species is not

then determinable. Section 7(a)(2) of the ESA requires that each Federal agency shall, in consultation with, and with the assistance of, NMFS, ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of its designated critical habitat.

Summary of Public and Independent Review

Our regulations require that we allow a period of at least 60 days for the public to review and comment on a proposed rule to list, delist, or reclassify a species, or to designate or revise critical habitat. We may extend or reopen the comment period upon finding that there is good cause to do so by publishing notice in the **Federal Register**. We are required to hold at least one public hearing if any person so requests within 45 days of the publication of a proposed rule. Notice of the location and time of any hearings is published in the **Federal Register**.

A 1994 joint NMFS–FWS policy (Independent Review Policy) requires us to solicit independent expert review from at least three qualified specialists, concurrent with the public comment period following a proposed rule (59 FR 34270; July 1, 1994). In December 2004 the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review (Peer Review Bulletin), establishing minimum peer review standards, a transparent process for public disclosure, and opportunities for public input. The OMB Peer Review Bulletin, implemented under the Information Quality Act (Pub. L. 106–554), is intended to ensure the quality of agency information, analyses, and regulatory activities and provide for a more transparent review process.

Listing Determination and Protective Regulations

We solicited public comment on the proposed listing determination and ESA section 4(d) regulations for the Oregon Coast coho ESU for a total of 208 days (69 FR 33102, June 14, 2004; 69 FR 53031, August 31, 2004; 69 FR 61348, October 18, 2004; 70 FR 6840, February 9, 2005; 70 FR 37217, June 28, 2005). In addition, we held eight public hearings in the Pacific Northwest concerning the June 2004 West Coast salmon and steelhead proposed 4(d) regulations and proposed listing determinations, including the proposed determination for the Oregon Coast coho ESU (69 FR 53031, August 31, 2004; 69 FR 61348, October 18, 2004). In compliance with the 1994 Independent Review Policy we solicited technical review of the June 2004 proposed 4(d) regulations and listing determinations, including the proposed determination for the Oregon Coast coho ESU, from over 50 independent experts selected from the academic and scientific community, Native American tribal groups, Federal and state agencies, and the private sector. The individuals from whom we solicited review of the proposals and the underlying science were selected because of their demonstrated expertise in a variety of disciplines including: Artificial propagation; salmonid biology, taxonomy, and ecology; genetic and molecular techniques and analyses; population demography; quantitative methods of assessing extinction risk; fisheries management; local and regional habitat conditions and processes; and conducting scientific analyses in support of ESA listing determinations. The individuals solicited represent a broad spectrum of perspectives and expertise. The individuals solicited include those who have been critical of past agency actions in implementing the ESA for West Coast salmon and steelhead, as well as those who have been supportive of these actions. These individuals were not involved in producing the scientific information for our determinations and were not employed by the agency. We received comments from four of these experts. In addition to these solicited reviews, several independent scientific panels and academic societies provided technical review of the proposals and the supporting documentation. With respect to the Peer Review Bulletin's requirements for ''adequate [prior] peer review,'' we believe the independent expert review under the 1994 Independent Review Policy, and the comments received from several academic societies and expert advisory panels, collectively satisfy the Peer Review Bulletin's requirements (NMFS, 2005b).

In response to our requests for information and comments on the June 2004 proposed listing determinations, we received over 28,250 comments by fax, standard mail, and e-mail. The majority of the comments received were from interested individuals who submitted form letters or form e-mails that addressed general issues not specific to the Oregon Coast coho ESU. Comments were also submitted by state and tribal natural resource agencies, fishing groups, environmental organizations, home builder associations, academic and professional societies, expert advisory panels, farming groups, irrigation groups, and individuals with expertise in Pacific salmonids. The majority of commenters focused on the consideration of hatchery-origin fish in ESA listing determinations, with only a few comments specifically addressing the Oregon Coast coho ESU. We also received comments from 4 of the 50 independent experts from whom we had requested technical review of the scientific information underlying the June 2004 proposed listing determinations. Their comments did not specifically address the proposed determination for the Oregon Coast coho ESU. The reader is referred to the final hatchery listing policy (70 FR 37204; June 28, 2005) and the final listing determinations and ESA section 4(d) regulations for 16 salmon ESUs (70 FR 37160; June 28, 2005) for a summary and discussion of issues raised by the comments that were not specific to the Oregon Coast coho ESU. The comments addressing the proposed listing determination for the Oregon Coast coho ESU are summarized below. We did not receive any comments that addressed the proposed 4(d) regulations in the specific context of the Oregon Coast coho ESU.

Critical Habitat

We solicited public comment on the proposed critical habitat designation for Oregon Coast coho for a total of 105 days (69 FR 74578, December 14, 2004; 70 FR 6394; February 7, 2005). We also contacted the appropriate Federal, state, and local agencies, scientific organizations, and other interested parties and invited them to comment on the proposed rule. To facilitate public participation, we made the proposed rule available via the Internet as soon as it was signed by the AA of NMFS (approximately 2 weeks prior to actual publication). In addition, we held four public hearings in the Pacific Northwest between January 11, 2005, and January 25, 2005. We received 5,230 written comments (5,111 of these were ''form e-mails'' with nearly identical verbiage) during the comment period on the proposed rule. Eight comments addressed specifically, or in part, the proposed critical habitat designation for the Oregon Coast coho ESU.

In compliance with the Peer Review Bulletin, prior to publishing the proposed rule we submitted the initial biological assessments of our Critical Habitat Analytical Review Teams (CHARTs) to state and tribal comanagers and asked them to review those findings. These comanager reviews resulted in several changes to the CHARTs' preliminary assessments (for

example, revised fish distribution as well as conservation value ratings) and helped ensure that the CHARTs' revised findings incorporated the best available scientific data. Consistent with the 1994 Independent Review Policy, we later solicited technical review of the entire critical habitat proposal (including the underlying biological and economic reports) from 45 independent experts selected from the academic and scientific community, Native American tribal groups, Federal and state agencies, and the private sector. We also solicited opinions from three individuals with economics expertise to review the draft economics analysis supporting the proposed rule. All three of the economics reviewers and three of the biological reviewers submitted written opinions on our proposal. We have determined that the independent expert review and comments received regarding the science involved in this rulemaking constitute adequate prior review under section II.2 of the OMB Peer Review Bulletin (NMFS, 2005c) and satisfy the 1994 Independent Review Policy.

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding critical habitat for all 13 ESUs addressed in the proposed rule. The reader is referred to the final critical habitat designations for 12 Pacific Northwest ESUs (70 FR 52685; September 2, 2005) for a summary and discussion of general issues, or issues specific to other ESUs. The comments addressing the proposed critical habitat designation for the Oregon Coast coho ESU are summarized below.

Comments Specific to Oregon Coast Coho

Below we address the comments received that directly pertain to: (1) The listing determination for the Oregon Coast coho ESU, and (2) the designation of critical habitat for the Oregon Coast coho ESU. (Copies of the full text of comments received are available upon request, see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT,** above.)

Comments Regarding the Listing Determination

Comment 1: The Oregon Department of Fish and Wildlife (ODFW) expressed concern regarding the proposed inclusion of the North Fork Nehalem River coho hatchery program in the Oregon Coast coho ESU. ODFW explained that the hatchery program propagates two different stocks: The North Fork Nehalem River hatchery coho stock (ODFW stock #32) and the Fishhawk Lake hatchery coho stock (ODFW stock #99). ODFW noted that both stocks, although founded using local natural-origin fish, are presently managed as isolated broodstocks. Although the level of divergence between these hatchery stocks and the local wild populations is not known, ODFW noted that our hatchery reviews (NMFS, 2003b, 2004a, 2004b) acknowledged that the level of divergence may be substantial. ODFW recommended that both the North Fork Nehalem River and Fishhawk Lake hatchery stocks be excluded from the ESU.

ODFW also noted that the recently founded Calapooya Creek (Umpqua River basin, Oregon) hatchery coho stock was not included in our hatchery reviews. The Calapooya Creek program was a small, short-term (in operation from 2001–2003), research hatchery program conducted to evaluate the use of hatchery-reared fish in the supplementation of a wild coho population. The program is no longer releasing fish, and had adults returning through 2006. ODFW suggested that, had we included this stock in our initial evaluations, the progeny expected to return through 2006 would have been considered as part of the Oregon Coast coho ESU.

Response: We agree with ODFW's comments that the North Fork Nehalem River and Fishhawk Lake stocks propagated by the Nehalem hatchery coho program are substantially reproductively isolated from the local natural populations, and diverged substantially from the evolutionary legacy of the ESU. Moreover, since our 2006 final determination these two programs have been discontinued, with the last adults returning in 2007 (NMFS, 2007a). We conclude that the North Fork Nehalem River and Fishhawk Lake hatchery coho stocks are not part of the Oregon Coast coho ESU.

We did not include the Calapooya Creek coho hatchery stock in our hatchery reviews as the program is no longer collecting fish for broodstock or releasing smolts. We agree with ODFW that returns from Calapooya Creek hatchery stock, having been derived from local natural-origin fish, likely were no more than moderately diverged from the local natural populations. However, given that the program has been terminated, and 2006 was the last year of returns, the Calapooya Creek hatchery stock will not be considered part of the Oregon Coast coho ESU.

At the time of the 2004 proposed rule and our January 2006 final determination not to list the ESU, Cow Creek (ODFW stock #37), the North Umpqua River (ODFW stock #18), the Coos Basin (ODFW stock #37), and the Coquille River (ODFW stock #44) hatchery coho programs were considered part of the Oregon Coast coho ESU. The latter three of these programs have been discontinued since our 2006 final determination (NMFS, 2007a). The last year of returns for these programs is 2007. Given that the North Umpqua River, Coos Basin, and Coquille River hatchery programs have been terminated, and this winter (2007) is the last year of returns, these stocks will not be considered part of the Oregon Coast coho ESU.

Comment 2: A comment submitted by the Pacific Rivers Council (PRC) included a July 2003 report investigating the potential benefits of a modeled conservation hatchery program in supplementing Oregon Coast coho (Oosterhout and Huntington, 2003). PRC asserted that the report supports their position that hatchery fish should be considered as only a threat to wild salmonid populations, and that any potential short-term benefits of artificial propagation are outweighed by the long-term damaging genetic and ecological effects on wild populations. The Oosterhout and Huntington (2003) report modeled an ''idealized conservation hatchery'' program and evaluated the success of supplementation efforts under different scenarios of habitat quality and marine survival. The authors conclude from their modeling study that supplementation, even under optimized model assumptions, poses long-term ecological and genetic risks, and any short-term gains in salmon abundance are temporary.

Response: The use of artificial propagation represents a broad spectrum of hatchery practices and facilities, as well as a variety of ecological settings into which hatchery-origin fish are released. For this reason it is essential to assess hatchery programs on a case-by-case basis. Our assessment of the benefits, risks, and uncertainties of artificial propagation concluded that the specific hatchery programs considered to be part of the Oregon Coast coho ESU collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2004b). We noted that these hatchery programs likely contribute to an increased abundance of total natural spawners in the short term, although their contribution to the productivity of the supplemented populations is unknown. Our assessment is consistent with the findings of Oosterhout and Huntington (2003). The findings of scientific studies, such as the subject study on simulated conservation hatchery

programs and their impacts on natural coho populations, inform our consideration of the benefits and risks to be expected from artificial propagation. However, it would be inappropriate to rely on theoretical conclusions about the effectiveness of hatchery programs while ignoring program-specific information regarding broodstock origin, hatchery practices, and performance of hatchery- and natural-origin fish.

Comment 3: Douglas County Board of Commissioners (Oregon) submitted a report (Cramer *et al.*, 2004) that concludes that NMFS' earlier viability analyses overstate the risks to Oregon Coast coho populations, and that the 2003 BRT's findings warrant reconsideration. The Cramer *et al.* (2004) report asserts that previous viability assessments failed to adequately consider connectivity among spawner aggregations, underestimated juvenile over-winter survival in smaller stream reaches, and underestimated coho population stability. The report asserts that sharp reductions in ocean harvest rates since 1994, declining influence of hatchery-origin fish, and improved monitoring and evaluation under the Oregon Plan confer a very low risk of extinction even if future marine survival rates are low and remain low.

Response: The Cramer *et al.* (2004) report does not present any substantial new information, other than including an additional year of abundance data that was not available to the BRT. The report emphasizes selective aspects of the available data including: reduction of threats by changes in fishery and harvest management; and improved biological status evidenced by increasing spawning escapements and successful juvenile rearing throughout the ESU. These observations and analyses were fully considered in the BRT's review (Good *et al.*, 2005; NMFS, 2003a). The Cramer *et al.* (2004) report does not, by itself, add to our consideration of the BRT's findings.

Comment 4: Several commenters felt that effective regulatory controls and monitoring programs are in place to ensure that harvest and hatchery practices no longer threaten the ESU.

Response: Many noteworthy and important regulatory changes have been made that adequately address historically harmful practices. Changes in ocean and freshwater fisheries management have resulted in sharp reductions in fishing mortality in Oregon Coast coho populations, and likely have contributed to recent population increases. It is unlikely that those harvest controls will weaken in the future, in light of Federal management of ocean fisheries. Reforms in hatchery management practices have limited the potential for adverse ecological interactions between hatchery-origin and natural fish, and have markedly reduced risks to the genetic diversity and reproductive fitness for the majority of naturally spawned populations in the ESU. It is also unlikely those reforms will be weakened in the future.

Comment 5: One commenter was critical of the Oregon Forest Practices Act, and argued that it is inadequate to prevent the future degradation of riparian habitats, particularly on private non-industrial forestlands. The commenter noted that the Forest Practices Act applies only to the commercial harvest of trees, and that non-commercial land owners may cut riparian trees without restriction if they do not sell the wood. The commenter noted that this unregulated practice is particularly evident in areas with increased rural residential development along streambanks.

Other commenters doubted whether regulations, restoration programs, and other protective efforts would improve habitat conditions in the foreseeable future. One commenter noted that there is an insufficient data record to evaluate the success of protective efforts aimed at restoring riparian habitats, particularly in increasing the recruitment of large woody debris. Several other commenters doubted whether forest management under the Oregon Plan has resulted, or will result, in an increased amount of large-diameter trees (important for the recruitment of large woody debris in coho rearing areas). The commenters argued that the shorter rotations being implemented on private industrial forest lands reduce the size of trees delivered to streams in landslides, and thus may result in diminished stream complexity in important coho rearing habitats.

Response: Our review suggests that there are likely to be improvements in some aspects of habitat condition, declines in others, and a continuation of current conditions in still others (NMFS, 2005a). For example, the Northwest Forest Plan instituted riparian habitat buffers and other measures on Federal lands that improved many of the historical forestry practices that led to the loss and degradation of riparian habitats. Development and implementation of Total Maximum Daily Loads under the Federal Clean Water Act are likely to result in improved water quality. Restoration efforts have treated approximately seven percent of the stream miles within the range of the ESU over the last 7 years with the intent of restoring stream complexity and riparian habitats and improving water quality, though it is unclear how much restoration is likely to occur in the future, given funding uncertainties.

Forest practices on state and private land include some improvements over historically harmful practices, such as the establishment of riparian management areas under revisions to Oregon forest practice rules in the 1990s. However, there are also offsetting practices that are expected to degrade habitat conditions and complexity, such as shorter harvest rotations, road construction, and logging on unstable slopes and along debris flow paths (NMFS, 2005a).

For agricultural lands, riparian management is governed by agricultural water quality management plans under Oregon Senate Bill 1010, as well as by subsequently developed riparian rules which synthesize elements of individual Senate Bill 1010 plans for a given basin. These agricultural plans and rules do not specify the vegetation composition or size of the riparian areas to be established. The lack of specificity of these agricultural plans makes the enforcement and effectiveness of these plans uncertain (NMFS, 2005a). Any modest improvements in riparian vegetation on agricultural lands under current rules that might be expected may be offset by habitat declines resulting from urban and rural development (NMFS, 2005a). On balance, habitat conditions on agricultural lands are not likely to show significant improvement or decline.

Future urbanization and development within the range of the ESU is projected at approximately 20 percent population growth, representing slightly more than 30,000 people over the next 40 years (NMFS, 2005a). Most of this development is expected to be concentrated in lowland areas with high intrinsic potential for rearing coho. Current urban or rural growth boundaries encompass approximately nine percent of high intrinsic potential riparian habitat areas, so future urbanization and development activities could have significant implications for some coho populations. The degree of potential impacts on coho habitat (both positive and negative) is highly uncertain and depends largely on the spatial distribution of future urbanization and development activities, their proximity to riparian areas, and the kinds of development activities undertaken and the land management practices used.

Comment 6: Several commenters expressed concern that inadequate funding has limited the ability of many

Oregon agencies to monitor non-permitted habitat-affecting activities, effectively enforce regulations, and ensure proper reporting of permitted activities. The commenters felt that these inadequacies should be considered evidence of uncertainty that some as yet, unproven elements under the Oregon Plan will be implemented.

Response: The commenters are correct that the availability of necessary funding and staffing resources is an important consideration in evaluating how likely it is that a given protective effort will be implemented. Our review has noted that funding declines have led to the loss of staff at the Oregon Department of Environmental Quality, Department of Forestry, and ODFW (NMFS, 2005a). The reduced funding has slowed the completion of Total Maximum Daily Load water quality standards, and reduced the ability to monitor water quality, habitat structure and complexity, and fish populations.

Comments Regarding the Designation of Critical Habitat

Comment 7: One Federal commenter provided information recommending changes to designated stream reaches in several watersheds due to errors in interpreting existing salmon distribution maps, recent field surveys, and the location of impassible barriers. This commenter also questioned the inclusion of Jackson and Josephine counties as within the range of areas designated as critical habitat for Oregon Coast coho salmon.

Response: In light of the specific comments received, we have reviewed all the data regarding habitat areas occupied by coho salmon and the location of impassible barriers. This review included discussions with local ODFW biologists familiar with the areas in question. The majority of suggested revisions were found to be warranted, and, as a result, we have updated the endpoints delineating areas occupied by coho salmon, including those designated as critical habitat, in ten watersheds (see ''*Summary of Changes from the Proposed Critical Habitat Designation*''). We have also removed Josephine and Jackson counties from the relevant critical habitat table in our regulations. These counties overlap slightly with upland areas in watersheds occupied by Oregon Coast coho salmon, but they do not contain stream reaches designated as critical habitat for this ESU.

Comment 8: Two commenters questioned the ''medium'' conservation-value rating assigned by the CHART to the habitat area for Devils Lake coho. These areas are within a larger Devils Lake/Moolack Frontal watershed. The commenters cited recent genetic data establishing that coho from Rock Creek/Devils Lake are genetically distinct from other populations in the ESU. The commenters believed that the coho in Devils Lake possess a unique and distinct genetic heritage warranting a ''high'' conservation value rating.

Response: The CHART considered these comments along with recent population identification work (Lawson *et al.*, 2007) and genetic analyses by Johnson and Banks (2007). The team maintained that the Devils Lake/Moolack Frontal watershed (which contains Devils Lake) was still of medium conservation value, noting that Devil's Lake coho are one of ten small and dependent populations in this watershed and appear to be most closely related to coho in the nearby Siletz River. The team acknowledged that Devils Lake was the most productive of these ten populations but that the overall watershed did not warrant a high conservation value relative to other adjacent watersheds with more extensive habitat areas and functionally independent populations (e.g., the Siletz River and Yaquina River watersheds). Regardless, Devils Lake and all other habitat areas in the Devils Lake/Moolack Frontal watershed are designated as critical habitat for Oregon Coast coho salmon.

Comment 9: One tribal government expressed support of the proposed exclusion of Indian lands from the area eligible for critical habitat designation. The tribe agreed with our proposal that designating Indian lands as critical habitat would adversely impact tribal partnerships with us and limit the benefits that result from collaboration. Additionally, the tribe felt that the proposal to not designate Indian lands as critical habitat appropriately acknowledges tribal sovereignty and authority in managing natural resources on their lands.

Response: This final rule maintains the exclusion of Indian lands for the reasons described in the *Exclusions Based on Impacts to Tribes* section below.

Comment 10: Several commenters argued that the conservation benefits provided by certain conservation measures on non-Federal lands provide sufficient protections so that there would be minimal benefit of designating the affected areas as critical habitat. One commenter felt that existing forest protections under the Oregon Forest Protection Act and associated best management practices adequately protect the PCEs found on private and state forest lands in the State of Oregon. Another commenter felt that protections under the Oregon Plan have demonstrated conservation benefits that warrant the exclusion of affected areas from designation as critical habitat. Another commenter felt that existing regulatory and other mechanisms under these conservation measures are inadequate to protect the ESU and its habitats. The commenter argued that it is essential to designate critical habitat in these areas where existing regulatory mechanisms do not prevent or alter certain activities that would adversely modify habitat.

Response: The comments imply that if an area is covered by a management plan, it either does not meet the ESA section 3(5)(a) definition of critical habitat or it must be excluded from critical habitat under ESA section 4(b)(2). Neither assertion is correct.

Section 3(5)(a) of the ESA defines critical habitat as occupied areas containing physical or biological features that are (1) essential to the conservation of the species and (2) which may require special management considerations or protections. Consistent with the statute, in identifying areas meeting the definition of critical habitat for this ESU, we identified the physical or biological features essential to the conservation of the ESU, identified the occupied areas where these features are present, and then determined whether these features in each area may require special management considerations and protections. The bases for these conclusions are described further below and in a separate report (NMFS, 2007b).

Section 4(b)(2) of the ESA gives the Secretary discretion to exclude areas from critical habitat if he determines that benefits of exclusion outweigh the benefits of designation. Exercising the discretion to exclude an area from critical habitat requires evidence of a benefit of exclusion. Section 4(b)(2) and the supporting legislative history make clear that the consideration and weight given to impacts are within the Secretary's (H.R. 95–1625) discretion and that exclusion is not required even when the benefits of exclusion outweigh the benefits of designation. In other critical habitat designations for Pacific salmon and steelhead, the Secretary excluded areas from critical habitat on private lands covered by habitat conservation plans because there was evidence in the record that exclusion would enhance the relationship between the landowner and the agency. That improved relationship was expected to result in improved implementation of the plan and incentives for the development of other

plans, increasing conservation benefits for fish (70 FR 52630; September 2, 2005). Regarding private and state lands subject to Oregon's forest practice laws, there is no conservation agreement in place between landowners and NMFS, nor any evidence in the record supporting a conclusion that conservation actions of landowners subject to these laws would improve as a result of exclusion. The same is true for lands generally covered by the Oregon Plan. Based on our review of available information, we found there were insufficient data and analysis to conclude that there is a benefit of exclusion. Absent evidence of a benefit of exclusion, we could not conclude that the benefits of exclusion outweigh the benefits of inclusion.

Comment 11: Two Federal commenters felt that all Federal lands merited exclusion from designation as critical habitat. They contended that conservation benefits under PACFISH, the Northwest Forest Plan, and National Forest Land and Resource Management Plans (LRMPs) provide necessary protection and special management that eliminates the need to designate habitats on Federal lands as critical. These commenters contended that designating critical habitat on these Federal lands was unnecessarily duplicative of existing ESA section 7 consultation processes, inefficient (e.g., citing costs of re-initiating consultation), while offering no additional conservation benefit to the listed species. They believed that excluding Federal lands would be consistent with our exclusion of military lands that are subject to Integrated Natural Resource Management Plans, which they felt contain similar provisions for the protection and restoration of listed species.

Response: ESA section 4(b)(2) provides the Secretary with discretion to exclude areas from the designation of critical habitat if the Secretary determines that the benefits of exclusion outweigh the benefits of designation, and the Secretary finds that exclusion of the area will not result in extinction of the species. In the proposed rule, and the reports supporting it, we explained the policies that guided us and provided supporting analysis for a number of proposed exclusions. We also noted a number of additional potential exclusions, including those associated with the Oregon Coast coho salmon due to conservation measures within the Northwest Forest Plan on Federal lands, explaining that we were considering them because the Secretary of the Interior had recently made similar exclusions in designating critical habitat for the bull trout. In the final rule designating critical habitat for 12 Pacific Northwest ESUs (70 FR 52630; September 2, 2005), we considered extensive comments supporting and opposing the exclusion of Federal lands, as well as comments concerning alternative approaches for assessing the benefits of exclusion versus inclusion of lands as critical habitat. That final rule also stated the following with regard to the potential exclusion of Federal lands and alternative approaches to designation:

> We will continue to study this issue and alternative approaches in future rulemakings designating critical habitat. In particular, we intend to analyze the planning and management framework for each of the ownership categories proposed for consideration for exclusion. In each case, we envision that the planning and management framework would be evaluated against a set of criteria, which could include at least some or all of the following:
>
> 1. Whether the land manager has specific written policies that create a commitment to protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
> 2. Whether the land manager has geographically specific goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
> 3. Whether the land manager has guidance for land management activities designed to achieve goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
> 4. Whether the land manager has an effective monitoring system to evaluate progress toward goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
> 5. Whether the land manager has a management framework that will adjust ongoing management to respond to monitoring results and/or external review and validation of progress toward goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.
> 6. Whether the land manager has effective arrangements in place for periodic and timely communications with NOAA on the effectiveness of the planning and management framework in reaching mutually agreed goals for protection or appropriate management of the physical or biological features essential to long-term conservation of ESA-listed salmon and steelhead.

NMFS has continued dialogue with the Federal land management agencies since that time. Although we have not yet developed the type of information that would allow us to exclude Federal lands at this time, we will work with the land management agencies to develop the information and consider exclusion of Federal lands, as well as alternative approaches to designation, where the analysis provides appropriate support. We anticipate that further analyses using principles such as those above can result in additional data to inform the ESA Section 4(b)(2) analysis regarding possible exclusion of Federal lands from critical habitat designations.

Comment 12: One commenter and a peer reviewer expressed concern that the economic analysis failed to consider the full range of economic benefits of salmon habitat conservation and, therefore, provided a distorted picture of the economic consequences of designating versus excluding eligible habitat areas. The commenter expressed concern that the economic impact of not designating particular areas would impede recovery efforts, and this cost should be considered in the economic analysis. The commenter cited the lack of consideration in the economic analysis of the potential benefits of critical habitat designation to: (1) Other aquatic and riparian species; (2) water quality; (3) recreation; and (4) increased recreational, commercial, and tribal harvest opportunities that would be available with recovery.

Response: As described in the economic analysis (NMFS, 2007c) and ESA section 4(b)(2) report (NMFS, 2007d), we did not have information available at the scale of this designation that would allow us to quantify the benefits of designation in terms of increased fisheries. Such an estimate would have required us to estimate the additional number of fish likely to be produced as a result of the designation, and would have required us to determine how to allocate the economic benefit from those additional fish to a particular watershed. Instead, we considered the ''benefits of designation'' in terms of conservation value ratings for each particular area (see ''Methods and Criteria Used to Designate Critical Habitat'' section below). We also lacked information to quantify and include in the economic analysis the economic benefit that might result from such things as improved water quality or flood control, or improved condition of other species.

Moreover, we did not have information at the scale of this designation that would allow us to consider the relative ranking of these types of benefits on the ''benefits of designation'' side of the ESA section 4(b)(2) balancing process. Our primary focus was to determine, consider, and balance the benefits of designating these

areas to the conservation of the listed species. Given the uncertainties involved in quantifying or even ranking these ancillary types of benefits, we did not include them in our analysis.

Final Species Determination

The Oregon Coast coho ESU includes all naturally spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco (63 FR 42587; August 10, 1998). One hatchery stock is considered part of the ESU: The Cow Creek (ODFW stock # 37) hatchery coho stock.

On June 14, 2004, we proposed that five artificial propagation programs should be considered part of the ESU (69 FR 33102), including the North Fork Nehalem River (ODFW stock # 32), the North Umpqua River (ODFW stock # 18), Coos Basin (ODFW stock # 37), and the Coquille River (ODFW stock # 44) coho hatchery programs. Informed by our analysis of the comments received from ODFW, and other recently available information (see Comment 1 and response, above), we conclude that these four hatchery programs are not part of the Oregon Coast coho ESU.

Assessment of the Species' Status

The steps we follow in making a listing determination are to: Review the status of the species, analyze the factors listed in section 4(a)(1) of the ESA to identify threats facing the species, assess whether certain protective efforts mitigate these threats, and predict the species' future persistence. Below we summarize the information we evaluated in reviewing the status of the Oregon Coast coho ESU. We considered the information included in the record for our January 2006 determination in a manner consistent with the Court's ruling in *Trout Unlimited*. We also considered additional status information that was readily available since our January 2006 decision, to determine if this new information is consistent with our conclusion based on the January 2006 (as the Court has ordered us to consider it).

We begin a typical listing determination for a salmon ESU by gathering the most recent available and relevant biological information and appointing a panel of Federal scientists (the BRT) familiar with the biology and population dynamics of salmon. This panel reviews the status information, considers and discusses various possible interpretations of the information, and prepares a written report containing its recommendations as well as the basis for them. In addition, the documents underlying the BRT's conclusions are made available to the decision maker for consideration. Typically, the BRT's review takes about 3–6 months to complete.

At the same time, regulatory staff gather updated information about the status and trends for other related factors, including the potential contributions (both positive and negative) from hatchery programs, the condition of the habitat, and the expected implementation and effectiveness of conservation efforts. This information is considered together with the BRT's recommendations in forming a final determination and preparing a written explanation of that determination.

While the above steps were conducted for Oregon Coast coho prior to the issuance of the 2004 proposed rule, the court order in *Trout Unlimited* requiring a final determination and the time allowed for making that final determination do not permit us to follow our typical practice anew for Oregon Coast coho. The available record contains a BRT recommendation and report made in 2003, based on status information through 2002. The information in the record about the condition of the habitat and the effectiveness of conservation efforts is also mostly data collected prior to 2003. We have also considered draft reports of the Technical Recovery Team for the Oregon Coast. These draft reports are directed primarily at the population structure of and recovery criteria for the Oregon Coast coho ESU, rather than the determination required for a listing decision.

Quantitative information available to us for this determination also includes numerical information on the abundance of Oregon Coast coho through 2006, preliminary spawner survey information for 2007, and estimates of the ocean survival for coho through 2006. Comparison of the abundance of the naturally-produced coho with the marine survival index suggests the possibility that much of the variability in coho numbers over the last decade or so may be due to fluctuations in the availability of food in the near-shore ocean (NMFS, 2007k). In addition, there is some indication that juvenile survival is limited by the supply of nutrients from the carcasses of spawning adult coho (Bilby *et al.*, 2001). It is possible that existing freshwater habitat is adequate to support a viable ESU, and that the fluctuations observed in Oregon Coast coho populations are partially driven by the supply of carcasses. The 2003 BRT did not explicitly consider the relationship between coho abundance and marine food availability, or the relationship between juvenile survival and the supply of carcasses. Our current record lacks the information and analyses necessary to assess the present status of freshwater habitat conditions and functional processes in the ESU. Oregon has aggressively implemented habitat conservation efforts, yet we lack the data necessary to resolve the benefits realized from these efforts by coho populations given the considerable variability in other environmental processes. In short, the recently available abundance information is not necessarily indicative of degraded freshwater habitat conditions, nor is it convincingly suggestive of a declining long-term trend for the ESU. Given the opportunity for further scientific review, it is possible that an improved understanding of the roles marine conditions and stream-nutrient supply play in determining coho population dynamics, might require revision of this determination. In summary, if we had been permitted to consider all the scientific information in the record, and if we had been allowed more time to do a complete scientific review of new information in a manner consistent with our typically thorough and comprehensive analytical processes, there is a reasonable possibility that we would have reached a different final listing determination.

Consideration of Information in the January 2006 Record

Biological Review Team Findings—The 2003 BRT considered data available through 2002. The abundance and productivity of Oregon Coast coho since the previous status review (NMFS, 1997a) represented some of the best and worst years on record. Yearly adult returns for the Oregon Coast coho ESU were in excess of 160,000 natural spawners in 2001 and 2002, far exceeding the abundance observed for the past several decades. These encouraging increases in spawner abundance in 2000–2002 were preceded, however, by three consecutive brood years (the 1994–1996 brood years returning in 1997–1999, respectively) exhibiting recruitment failure (recruitment failure is when a given year class of natural spawners fails to replace itself when its offspring return to the spawning grounds 3 years later). These 3 years of recruitment failure were the only such instances observed thus far in the entire 55-year abundance time series for Oregon Coast coho salmon (although comprehensive population-level survey data have only been available since 1980). The encouraging 2000–2002 increases in

natural spawner abundance occurred in many populations in the northern portion of the ESU, populations that were the most depressed at the time of the last review (NMFS, 1997a). Although encouraged by the increase in spawner abundance in 2000–2002, the BRT noted that the long-term trends in ESU productivity were still negative due to the low abundances observed during the 1990s.

The majority of the BRT felt that the recent increases in coho returns were most likely attributable to favorable ocean conditions and reduced harvest rates. The BRT was uncertain as to whether such favorable marine conditions would continue into the future. Despite the likely benefits to spawner abundance levels gained by the dramatic reduction of harvest rates on Oregon Coast coho populations (PFMC, 1998), harvest cannot be significantly further reduced in the future to compensate for declining productivity due to other factors. The BRT was concerned that if the long-term decline in productivity reflected deteriorating conditions in freshwater habitat, this ESU could face very serious risks of local extirpations if ocean conditions reverted back to poor productivity conditions. Approximately 30 percent of the ESU has suffered habitat fragmentation by culverts and thermal barriers, generating concerns about ESU spatial structure. Additionally, the lack of response to favorable ocean conditions for some populations in smaller streams and the different patterns between north and south coast populations may indicate compromised connectivity among populations. The degradation of many lake habitats and the resultant impacts on several lake populations in the Oregon Coast coho ESU also pose risks to ESU diversity. The BRT noted that hatchery closures, reductions in the number of hatchery smolt releases, and improved marking rates of hatchery fish have significantly reduced risks to diversity associated with artificial propagation.

The BRT found high risk to the ESU's productivity, and comparatively lower risk to the ESU's abundance, spatial structure, and diversity. Informed by this risk assessment, a slight majority of the BRT concluded that the Oregon Coast coho ESU was ''likely to become endangered within the foreseeable future.'' However, a substantial minority of the BRT concluded that the ESU was ''not in danger of extinction or likely to become endangered within the foreseeable future.'' The minority believed that the large number of spawners in 2001–2002 and a high projected abundance for 2003 suggested that this ESU was not ''in danger of extinction'' or ''likely to become endangered within the foreseeable future.'' Furthermore, the minority believed that recent strong returns following 3 years of recruitment failure demonstrated that populations in this ESU are resilient.

Consideration of Artificial Propagation—Our review of the five hatchery programs that were proposed to be listed as part of the ESU concluded that they collectively do not substantially reduce the extinction risk of the ESU (NMFS, 2003a, 2004a, 2004b; see proposed rule for a more detailed explanation of this assessment, 69 FR 33102; June 14, 2004). Our final determination that the North Umpqua River, Coos Basin, Coquille River, North Fork Nehalem River, and Fishhawk Lake coho hatchery programs are not part of the ESU does not alter our previous conclusion that artificial propagation does not contribute appreciably to the viability of the ESU.

In *Trout Unlimited* v. *Lohn* (Civ. No. 06–0483–JCC (W. D. Wash., June 13, 2006), the U.S. District Court for the Western District of Washington set aside our 2005 Hatchery Listing Policy, finding that the Policy's consideration of both natural and hatchery fish in ESA listing determinations departs from the ESA's central purpose to promote and conserve naturally self-sustaining populations. Although the extinction risk assessment in the 2006 record evaluated the status of the ESU in-total (including both within-ESU natural and hatchery fish), we found that consideration of artificial propagation does not reduce the risk of extinction of the ESU. Therefore, the above described assessment of extinction risk does not require revision in light of the ruling in the above case.

Preliminary Results of Oregon Coast Coho Recovery Planning—NMFS' Technical Recovery Team (TRT) for the Oregon and Northern California Coast is charged with describing the historical population structure, developing biological recovery criteria with which to evaluate the status of an ESU relative to recovery, and identifying those factors limiting or impeding recovery. Prior to our 2006 determination not to list the Oregon Coast coho ESU, the TRT provided a preliminary report on its progress in developing these products for the Oregon Coast coho ESU (NMFS, 2005d). The TRT's preliminary report underscored the uncertainty associated with assessing the future status of the ESU. The TRT stated that ''at this time our evaluation indicates, with a moderate degree of uncertainty, that the ESU is persistent'' (the TRT defines a ''persistent'' ESU as one that is able to persist (i.e., not go extinct) over a 100-year period without artificial support, relating the term to ''the simple risk of extinction, which is the primary determination of endangered status under the ESA''). The TRT further stated that ''our evaluation of biological viability based on current and recent past conditions shows a high degree of uncertainty with respect to the statement that the ESU is sustainable'' (the TRT defines a ''sustainable'' ESU as ''one that, in addition to being persistent, is able to maintain its genetic legacy and long-term adaptive potential for the foreseeable future * * * so that risk of extinction will not increase in the future,'' relating the term to ''threatened status under the ESA'').

Biological Implications of Ocean-Climate Conditions—In an August 12, 2005, memorandum, NMFS' Northwest Fisheries Science Center (NWFSC) summarized the most recent information available on West Coast ocean conditions, described observations of impacts on marine communities, and offered predictions of the implications of recent ocean conditions on West Coast salmon stocks, including the Oregon Coast coho ESU (NMFS, 2005e). The memorandum described recent observations of anomalous ocean conditions that may portend lower returns of coho salmon for the fall of 2005 and the next several years. The memorandum noted that indices of ocean-climate variation are suggestive of a regime shift in ocean-climate conditions that in the past have been associated with warmer water temperature, poor primary productivity, and generally less favorable conditions for coho marine survival. The recent in-situ observations confirm delayed coastal upwelling, anomalously warm sea surface temperatures, altered zooplankton community structure, and low survey abundances of juvenile salmon, possibly indicating low marine survival. Strong upwelling occurred in mid-July 2005 resulting in cooler sea surface temperatures, increased primary productivity, and generally more favorable conditions for salmon survival. It was unclear whether this delayed onset of coastal upwelling would compensate for earlier unfavorable conditions which occurred during critical life-history stages for coho salmon. The memorandum noted that model projections indicate that fish populations that prey on juvenile coho salmon may be reduced, possibly compensating somewhat for unfavorable marine survival conditions for coho returns in 2006. The memorandum

concluded that the NWFSC was relatively confident that the negative biological implications of recent ocean conditions for the Oregon Coast coho ESU would be dramatic over the next few years.

Conclusions Regarding the Status of the Oregon Coast Coho ESU

We conclude, after considering the above information contained in the record of our January 2006 determination (in a manner consistent with the Court's order), that the Oregon Coast coho ESU is likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range. This finding is based, in part, on the BRT's slight majority conclusion that the ESU is ''likely to become endangered in the foreseeable future.'' The TRT's subsequent preliminary assessment of ESU viability (NMFS, 2005d) was consistent with the BRT's assessment, finding a high degree of uncertainty whether the ESU is sustainable for the foreseeable future. Although returns in 2001 and 2002 were extremely encouraging, there remained concern whether future ocean conditions would favor such high levels of recruitment. The NWFSC's August 2005 memorandum describing the implications of recent ocean-climate conditions (NMFS, 2005e) did not assuage this concern, concluding that recent ocean conditions portended unfavorable marine survival conditions for Oregon Coast coho in the near term.

Consideration of New Information Since the January 2006 Determination

The ESA requires that listing determinations be made solely on the basis of the best scientific and commercial data available. To that end, we also considered new status and trend information made available since the 2003 BRT report, and since our January 2006 ''not warranted'' determination to ensure that our present listing determination for the Oregon Coast coho ESU has considered the best information available. We evaluated these new data to determine whether they supported our risk assessment based on the information contained in the January 2006 record alone.

Since the BRT convened in January 2003, the total abundance of natural spawners in the Oregon Coast coho ESU has declined each year (i.e., 2003–2006). The abundance of total natural spawners in 2006 (111,025 spawners) was approximately 43 percent of the recent peak abundance in 2002 (255,372 spawners). In 2003, ESU-level productivity (evaluated in terms of the number of spawning recruits resulting from spawners 3 years earlier) was above replacement (approximately 3.2 recruits per spawner). ESU-level productivity was essentially at replacement in 2004 (approximately 0.99 recruits per spawner), but below replacement in 2005 and 2006. The productivity observed in 2006 (approximately 0.49 recruits per spawner) is the lowest observed since 1991. From 2003–2006 harvest rates remained low, averaging approximately 12 percent of the total run. Marine survival from 2003–2006 (estimated in terms of the number of returning hatchery adults resulting from the number of hatchery smolts released 2 years earlier) was generally at or above the average during 1990–2006. The decline in ESU productivity from 2003–2006, while marine survival conditions were generally favorable, suggests that factors other than ocean conditions are responsible for the decline.

In August 2007, the Oregon and Northern California Coast TRT released a draft report entitled ''Biological Recovery Criteria for the Oregon Coast coho Salmon Evolutionarily Significant Unit'' (Wainwright *et al.*, 2007). This draft report presents biological criteria for assessing the ESU's progress toward recovery, and also applies these criteria in assessing the current biological status of the ESU. The TRT considered the population data available through 2004. This draft report thus represents a more recent assessment of the ESU's status relative to the 2003 BRT's review. The results of the recent draft report are consistent with the TRT's preliminary progress report described above (NMFS, 2005d), finding that there is low to moderate certainty that the ESU is sustainable for the foreseeable future. The recent draft report considered the population data available through 2004, and thus does not reflect the declining abundance and productivity observed in 2005 and 2006.

Preliminary spawner survey data for 2007 (the average peak number of spawners per mile observed during random coho spawning surveys in 41 streams) suggest that the 2007–2008 return of Oregon Coast coho is either (1) much reduced from abundance levels in 2006, or (2) exhibiting delayed run timing from previous years. As of December 13, 2007, the average peak number of spawners per mile was below 2006 levels in 38 of 41 surveyed streams (ODFW, 2007). It is possible that the timing of peak spawner abundance is delayed relative to previous years, and that increased spawner abundance in late December 2007 and January 2008 will compensate for the low levels observed thus far in the 2007–2008 spawning season.

Our review of the above new abundance and productivity information and the TRT's 2007 draft report does not indicate that the status of the Oregon Coast coho ESU has improved since the 2003 BRT report. The recent 5-year geometric mean abundance (2002–2006) of approximately 152,960 total natural spawners remains well above that of a decade ago (approximately 52,845 from 1992–1996). However, the decline in productivity from 2003 to 2006, despite generally favorable marine survival conditions and low harvest rates, is of concern.

After reviewing the scientific and commercial information available in the record concerning the status of the Oregon Coast Coho (in a manner consistent with the Court's order) and adding to the record the Draft 2007 TRT report, 2003–2006 abundance and marine survival information, and preliminary spawner survey information for 2007, we conclude that this information requires a conclusion that the ESU is likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range. The recent declines in the ESU's abundance and productivity are not necessarily indicative of a substantial degradation of the ESU's status. Similar interannual variability in abundance and productivity has been observed previously for the Oregon Coast coho ESU, and similar variability is expected to occur in the future. The principal inquiry in determining if the ESU warrants listing is whether present habitat conditions are sufficient to support a viable ESU, and whether future freshwater habitat conditions are expected to degrade. The present and future status of freshwater habitat for the Oregon Coast coho ESU remains uncertain. As noted above, we believe that if we had been permitted to consider all the scientific information in the record, and if we had been allowed more time for a complete scientific review of new information in a manner consistent with our typically thorough and comprehensive analytical processes, there is a reasonable possibility that we would have reached a different final listing determination.

Final Listing Determination

Consideration of ESA Section 4(a)(1) Factors

Section 4(a)(1) of the ESA and NMFS' implementing regulations (50 CFR part 424) requires us to add a species to the

List of Endangered and Threatened Species if it is endangered or threatened because of any one or a combination of the following factors: (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or human-made factors affecting its continued existence. We have previously detailed the impacts of various factors contributing to the decline of Pacific salmonids as part of our prior listing determinations for 27 ESUs, as well as in supporting technical reports (e.g., NMFS, 1997b, ''Coastal coho habitat factors for decline and protective efforts in Oregon;'' NMFS, 1997c, ''Factors Contributing to the Decline of Chinook Salmon—An Addendum to the 1996 West Coast Steelhead Factors for Decline Report;'' NMFS, 1996a, ''Factors for Decline—A Supplement to the Notice of Determination for West Coast Steelhead Under the Endangered Species Act''). Our prior listing determinations and technical reports concluded that all of the factors identified in section 4(a)(1) of the ESA have played a role in the decline of West Coast salmon and steelhead. In our 1998 threatened listing determination for the Oregon Coast coho ESU (63 FR 42588; August 10, 1998), we concluded that the decline of Oregon Coast coho populations is the result of several longstanding, human-induced factors (e.g., habitat degradation, water diversions, harvest, and artificial propagation) that exacerbate the adverse effects of natural environmental variability (e.g., floods, drought, and poor ocean conditions). The following discussion briefly summarizes our findings regarding the threats currently facing the Oregon Coast coho ESU. While these threats are treated in general terms, it is important to underscore that impacts from certain threats are more acute for some populations in the ESU.

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

In many Oregon coastal streams, past human activities (e.g., logging, agriculture, gravel mining, urbanization) have resulted in impediments to fish passage, degradation of stream complexity, increased sedimentation, reduced water quality and quantity, loss and degradation of riparian habitats, and loss and degradation of lowland, estuarine, and wetland coho rearing habitats. The relevant issues are whether current habitat conditions are adequate to support the ESU's persistence (that is, whether the species is endangered or threatened because of present destruction, modification, or curtailment of its habitat or range) and whether habitat conditions are likely to worsen in the future (that is, whether the species is endangered or threatened because of threatened destruction, modification, or curtailment of its habitat or range). Regarding the first issue, the 2003 BRT noted uncertainty about the adequacy of current habitat conditions, and this uncertainty contributed to the slight majority finding that the ESU was likely to become an endangered species within the foreseeable future.

Regarding the second issue, the threat of future habitat declines, the 2003 BRT noted that ''if the long-term decline in productivity [of the Oregon Coast coho ESU] reflects deteriorating conditions in freshwater habitat, this ESU could face very serious risks of local extinction during the next cycle of poor ocean conditions.'' The BRT thus identified potential future habitat declines as a potential concern. As part of our January 2006 determination we evaluated the likely future trend of various habitat elements and the likely impact of future population growth (NMFS, 2005a). With respect to population growth and urbanization, we found that approximately 3.4 percent of ''high intrinsic potential'' habitat areas for coho (e.g., lowland stream reaches particularly important to juvenile coho rearing and overwintering survival) are within currently designated urban growth areas, suggesting that future human population growth may not represent a significant threat to the ESU (NMFS, 2005a). With respect to lowland and upland habitat areas under various types of land use and ownership, we found that some areas are likely to improve, some are likely to decline, and others are likely to remain in their current condition. Overall, there is a high level of uncertainty associated with projections of future habitat conditions due to underlying economic and sociopolitical factors influencing forest harvest and restoration rates, urban conversion of agricultural and forest lands, and the enforcement and implementation of land-use plans and regulations. Based on our analysis, we found that there is insufficient evidence to conclude that the Oregon Coast coho ESU was more likely than not to become an endangered species because of the ''threatened destruction, modification, or curtailment of its habitat or range.'' It remains uncertain whether future freshwater habitat conditions will be adequate to support a viable coho ESU, particularly during periods of unfavorable ocean conditions and poor marine survival.

B. Overutilization for Commercial, Recreational, Scientific or Educational Purposes

Harvest rates on Oregon Coast coho populations ranged between 60 and 90 percent between the 1960s and 1980s (Good *et al.*, 2005). Modest harvest restrictions were imposed in the late 1980s, but harvest rates remained high until most directed coho salmon harvest was prohibited in 1994. These restrictive harvest regulations, developed concurrently with the Oregon Plan and subsequently revised, have imposed conservative restrictions on directed and incidental fishery mortality, and appropriately consider marine survival conditions and the biological status of naturally produced coho populations. Under these revised regulations, harvest rates are stipulated to be between 0 and 8 percent during critically low spawner abundance, and may increase to a maximum exploitation rate of 45 percent under high survival and abundance conditions (Oregon, 2005). Empirical data over the last 10 years show that harvest mortality for Oregon Coast coho has been maintained below 15 percent since the adoption of the revised regulations (Oregon, 2005). We agree with the 2003 BRT's finding that overutilization has been effectively addressed for Oregon Coast coho populations.

C. Disease or Predation

Past species introductions and habitat modifications have resulted in increased non-native predator populations, notably in coastal lake habitats. Predation by increased populations of marine mammals (principally sea lions) may influence salmon abundance in some local populations when other prey species are absent and where physical conditions lead to the concentration of adults and juveniles (e.g., Cooper and Johnson, 1992). However, the extent to which marine mammal predation threatens the persistence of Oregon coast coho populations is unknown.

Infectious disease is one of many factors that can influence adult and juvenile salmon survival. Salmonids are exposed to numerous bacterial, protozoan, viral, and parasitic organisms in spawning and rearing areas, hatcheries, migratory routes, and the marine environment. Specific diseases such as bacterial kidney disease, ceratomyxosis, columnaris, furunculosis, infectious hematopoietic

necrosis virus, redmouth and black spot disease, erythrocytic inclusion body syndrome, and whirling disease, among others, are present and known to affect West Coast salmonids (Rucker *et al.*, 1953; Wood, 1979; Leek, 1987; Foott *et al.*, 1994; Gould and Wedemeyer, undated). In general, very little current or historical information exists to quantify trends over time in infection levels and disease mortality rates. However, studies have shown that naturally spawned fish tend to be less susceptible to pathogens than hatchery-reared fish (Buchanon *et al.*, 1983; Sanders *et al.*, 1992). Native salmon populations have co-evolved with specific communities of these organisms, but the widespread use of artificial propagation has introduced exotic organisms not historically present in a particular watershed. Habitat conditions such as low water flows and high temperatures can exacerbate susceptibility to infectious diseases.

Aggressive hatchery reform efforts implemented by the State of Oregon have reduced the magnitude and distribution of hatchery fish releases in the ESU, and, consequently, the interactions between hatchery- and natural-origin fish and the potential transmission of infectious diseases. Additionally, regulations controlling hatchery effluent discharges into streams have reduced the potential of pathogens being released into coho habitats.

D. The Inadequacy of Existing Regulatory Mechanisms

Existing regulations governing coho harvest have dramatically improved the ESU's likelihood of persistence. These regulations are unlikely to be weakened in the future. Of the wide range of land uses and other activities affecting salmon habitat, however, some are more amenable to regulation than others. In the range of Oregon Coast coho, the regulation of some activities and land uses will alter past harmful practices, resulting in habitat improvements; the regulation of other activities is inadequate to alter past harmful practices, resulting in habitat conditions continuing in their present state; and the regulation of still other activities and land uses will lead to further degradation (NMFS, 2005a).

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Natural variability in ocean and freshwater conditions has at different times exacerbated or mitigated the effects on Oregon Coast coho populations of habitat limiting factors. There is considerable uncertainty in predicting ocean-climate conditions into the foreseeable future and their biological impacts on the Oregon Coast coho ESU. Variability in ocean-climate conditions is expected, and coho productivity and abundance are similarly expected to fluctuate in response to this natural environmental variability. It is unknown whether unfavorable ocean conditions will predominate in the foreseeable future.

Prior to the 1990s, coho hatchery programs along the Oregon coast posed substantial risks to the survival, reproductive fitness, and diversity of natural populations. High numbers of hatchery coho were released in most of the basins in the ESU, most programs propagated non-native broodstocks, and naturally spawning hatchery-origin strays were common in most natural production areas. Oregon's aggressive hatchery reform efforts have resulted in substantial reductions of this threat. Hatchery coho are released in less than half of the populations in the ESU, and the magnitude of releases has declined from a peak of 35 million smolts in 1981, to approximately 800,000 in 2005. Hatchery programs are currently constrained to releasing no more than 200,000 smolts in any basin. The reduction in the number of hatchery fish released has reduced the potential for competition with, and predation on, natural coho. The proportion of hatchery-origin fish in natural spawning areas has been reduced to below 10 percent in all but two populations in the ESU. All hatchery coho releases in the ESU are now marked, affording improved monitoring and assessment of the co-existing naturally produced coho populations. Broodstock management practices have been modified to minimize the potential for hatchery-origin fish to pose risks to the genetic diversity of local natural populations. We conclude the ESU is not in danger of extinction or likely to become endangered in the foreseeable future because of hatchery practices.

Efforts Being Made To Protect the Species

Section 4(b)(1)(A) of the ESA requires the Secretary to make listing determinations solely on the basis of the best scientific and commercial data available after taking into account efforts being made to protect a species. In making listing determinations we first assess the species' level of extinction risk, identify factors that threaten its continued existence, and assess existing efforts being made to protect the species to determine if those measures ameliorate the risks it faces. The reader is referred to the June 14, 2004, proposed rule for a summary of efforts, including those under the Oregon Plan, being made to protect Oregon Coast coho populations (69 FR 33102, at 33142). Harvest reductions and improvements in hatchery management are noteworthy in that they have been fully implemented and their effectiveness is manifested in the improved status of Oregon Coast coho populations. The benefits of these accomplishments in hatchery and harvest management under the Oregon Plan, however, were fully considered in the 2003 BRT's assessment of ESU extinction risk. In our June, 14, 2004, proposed listing for the Oregon Coast coho ESU (69 FR 33102), we evaluated all other relevant protective efforts and determined that they did not substantially alter our finding that the ESU is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Since our January 2006 determination, the State of Oregon released a draft Coho Conservation Plan for Oregon Coast coho. The draft Conservation Plan culminated a 2-year development process including significant input and involvement from local stakeholders. The draft conservation plan establishes ambitious conservation goals and is an important step in describing limiting factors and threats, identifying specific conservation actions to address these factors and threats, and designing a robust research and monitoring program to evaluate the effectiveness of conservation actions that contribute to rebuilding the Oregon Coast coho ESU. As reflected in the comments that we provided on the draft Conservation Plan (NMFS, 2007e), the plan lacks the necessary detail, specificity, and commitment of resources to provide sufficient certainty of implementation and effectiveness to alter our assessment that the ESU is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Final Listing Determination

The ESA defines an endangered species as any species in danger of extinction throughout all or a significant portion of its range, and a threatened species as any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Section 4(b)(1) of the ESA requires that the listing determination be based solely on the best scientific and commercial data available, after conducting a review of the status of the species and taking into

account those efforts, if any, being made to protect such species.

The information included in the record of our January 2006 determination (as the Court has ordered us to consider it) indicates that the Oregon Coast coho ESU is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. New abundance and productivity data do not suggest that the ESU's biological status has improved since our January 2006 determination. Efforts being made to protect the species, at present, do not provide sufficient certainty of implementation or effectiveness to mitigate the assessed level of extinction risk. Therefore, we conclude that the Oregon Coast coho ESU warrants listing under the ESA as a threatened species.

Prohibitions and Protective Regulations

On June 28, 2005, as part of the final listing determinations for 16 ESUs of West Coast salmon, we amended and streamlined the previously promulgated ESA section 4(d) regulations for threatened salmon and steelhead (70 FR 37160). We finalized an amendment to provide the necessary flexibility to ensure that fisheries and artificial propagation programs are managed consistently with the conservation needs of threatened salmon and steelhead. Under this change the section 4(d) protections apply to natural and hatchery fish with an intact adipose fin, but not to listed hatchery fish that have had their adipose fin removed prior to release into the wild. Additionally, we made several simplifying and clarifying changes to the 4(d) regulations, including updating an expired limit (section 223.203(b)(2)), providing a temporary exemption for ongoing research and enhancement activities, and applying the same set of 14 limits to all threatened salmon and steelhead.

Description of Protective Regulations Being Afforded Oregon Coast Coho

Consistent with the June 2005 amended ESA section 4(d) regulations, this final rule applies the ESA section 9(a)(1) take and other prohibitions (subject to the ''limits'' discussed below) to unmarked members of the Oregon Coast coho ESU with an intact adipose fin. (The clipping of adipose fins in juvenile hatchery fish just prior to release into the natural environment is a commonly employed method for the marking of hatchery production). We believe this approach provides needed flexibility to appropriately manage the artificial propagation and directed take of threatened salmon and steelhead for the conservation and recovery of the listed species.

The June 2005 amended ESA section 4(d) regulations simplified the previously promulgated 4(d) rules by applying the same set of 14 ''limits'' to all threatened salmon and steelhead. These limits allow us to exempt certain activities from the take prohibitions, provided that the applicable programs and regulations meet specific conditions to adequately protect the listed species. In this final rule we are applying this same set of 14 limits to the Oregon Coast coho ESU. Comprehensive descriptions of each 4(d) limit are contained in ''A Citizen's Guide to the 4(d) Rule'' (available on the Internet at *http://www.nwr.noaa.gov*), and in previously published **Federal Register** notices (65 FR 42422, July 10, 2000; 65 FR 42485, July 10, 2000; 69 FR 33102; June 14, 2004; 70 FR 37160, June 28, 2005). These ''limits'' include: activities conducted in accordance with ESA section 10 incidental take authorization (50 CFR 223.203(b)(1)); scientific or artificial propagation activities with pending permit applications at the time of rulemaking (§ 223.203(b)(2)); emergency actions related to injured, stranded, or dead salmonids (§ 223.203(b)(3)); fishery management activities (§ 223.203(b)(4)); hatchery and genetic management programs (§ 223.203(b)(5)); activities in compliance with joint tribal/state plans developed within *United States (U.S.)* v. *Washington* or *U.S.* v. *Oregon* (§ 223.203(b)(6)); scientific research activities permitted or conducted by the states (§ 223.203(b)(7)); state, local, and private habitat restoration activities (§ 223.203(b)(8)); properly screened water diversion devices (§ 223.203(b)(9)); routine road maintenance activities (§ 223.203(b)(10)); certain park pest management activities (§ 223.203(b)(11)); certain municipal, residential, commercial, and industrial development and redevelopment activities (§ 223.203(b)(12)); management activities on state and private lands within the State of Washington (§ 223.203(b)(13)); and activities undertaken consistent with an approved tribal resource management plan (§ 223.204).

Limit § 223.203(b)(2) exempts scientific or artificial propagation activities with pending applications for ESA section 4(d) approval. The limit was amended as part of the June 28, 2005, final rule to temporarily exempt such activities from the take prohibitions during a ''grace period,'' provided that a complete application for 4(d) approval was received within a specified period from the notice's publication (70 FR 37160). The limit was again modified in February 2006 when the 4(d) regulations were extended to the Upper Columbia River steelhead DPS (71 FR 5178; February 1, 2006). The deadlines associated with this exemption have expired. Consistent with the 2004 proposed rule to list Oregon Coast coho and extend 4(d) regulations to the ESU (69 FR 33102; June 14, 2004), we believe it is necessary and advisable for the conservation and recovery of Oregon Coast coho to allow research and enhancement activities to continue uninterrupted while we process the necessary permits and approvals. Provided we receive a complete application by June 10, 2008, the take prohibitions will not apply to research and enhancement activities which affect Oregon Coast coho until the application is rejected as insufficient, a permit or 4(d) approval is issued, or until March 31, 2009, whichever occurs earliest. The length of this ''grace period'' is necessary because we process applications for 4(d) approval annually.

Other Protective ESA Provisions

Section 7(a)(4) of the ESA requires that Federal agencies confer with NMFS on any actions likely to jeopardize the continued existence of a species proposed for listing and on actions likely to result in the destruction or adverse modification of proposed critical habitat. For listed species, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or conduct are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a proposed Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with NMFS or the FWS, as appropriate. Examples of Federal actions likely to affect salmon include authorized land management activities of the USFS and the BLM, as well as operation of hydroelectric and storage projects of the Bureau of Reclamation (BOR) and the U.S. Army Corps of Engineers (USACE). Such activities include timber sales and harvest, permitting livestock grazing, hydroelectric power generation, and flood control. Federal actions, including the USACE section 404 permitting activities under the Clean Water Act, USACE permitting activities under the River and Harbors Act, Federal Energy Regulatory Commission (FERC) licenses for non-Federal development and operation of hydropower, and Federal

salmon hatcheries, may also require consultation.

Sections 10(a)(1)(A) and 10(a)(1)(B) of the ESA provide NMFS with authority to grant exceptions to the ESA's ''take'' prohibitions. Section 10(a)(1)(A) scientific research and enhancement permits may be issued to entities (Federal and non-Federal) conducting research that involves a directed take of listed species. A directed take refers to the intentional take of listed species. We have issued section 10(a)(1)(A) research/enhancement permits for currently listed ESUs for a number of activities, including trapping and tagging, electroshocking to determine population presence and abundance, removal of fish from irrigation ditches, and collection of adult fish for artificial propagation programs. Section 10(a)(1)(B) incidental take permits may be issued to non-Federal entities performing activities which may incidentally take listed species. The types of activities potentially requiring a section 10(a)(1)(B) incidental take permit include the operation and release of artificially propagated fish by state or privately operated and funded hatcheries, state or academic research that may incidentally take listed species, the implementation of state fishing regulations, logging, road building, grazing, and diverting water into private lands.

Identification of Those Activities That Would Constitute a Violation of Section 9 of the ESA

NMFS and the FWS published in the **Federal Register** on July 1, 1994 (59 FR 34272), a policy that NMFS shall identify, to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the ESA. The intent of this policy is to increase public awareness of the effect of this listing on proposed and ongoing activities within the species' range. At the time of the final rule, we must identify to the extent known specific activities that will not be considered likely to result in violation of section 9, as well as activities that will be considered likely to result in violation. We believe that, based on the best available information, the following actions will not result in a violation of section 9:

1. Possession of fish from the Oregon Coast coho ESU that are acquired lawfully by permit issued by NMFS pursuant to section 10 of the ESA, or by the terms of an incidental take statement issued pursuant to section 7 of the ESA; or

2. Federally funded or approved projects that involve activities such as silviculture, grazing, mining, road construction, dam construction and operation, discharge of fill material, stream channelization or diversion for which section 7 consultation has been completed, and when activities are conducted in accordance with any terms and conditions provided by NMFS in an incidental take statement accompanying a biological opinion.

There are many activities that we believe could potentially take salmon by harming them. ''Harm'' is defined by our regulations as ''an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering'' (50 CFR 222.102 (harm)). Activities that may harm the Oregon Coast coho ESU resulting in a violation of the section 9 take and other prohibitions, include, but are not limited to:

1. Land-use activities that degrade habitats for the Oregon Coast coho ESU (e.g., logging, grazing, farming, urban development, road construction in riparian areas and areas susceptible to mass wasting and surface erosion);

2. Destruction/alteration of the habitats for the Oregon Coast coho ESU, such as removal of large woody debris and ''sinker logs'' or riparian shade canopy, dredging, discharge of fill material, draining, ditching, diverting, blocking, gravel mining, or altering stream channels or surface or ground water flow;

3. Discharges or dumping of toxic chemicals or other pollutants (e.g., sewage, oil, gasoline) into waters or riparian areas supporting the Oregon Coast coho ESU;

4. Violation of discharge permits;

5. Application of pesticides affecting water quality or riparian areas for the Oregon Coast coho ESU;

6. Interstate and foreign commerce of fish from the Oregon Coast coho ESU and import/export of fish from the Oregon Coast coho ESU without a threatened or endangered species permit;

7. Collecting or handling of fish from the Oregon Coast coho ESU. Permits to conduct these activities are available for purposes of scientific research or to enhance the conservation or survival of the species; and

8. Introduction of non-native species likely to prey on fish from the Oregon Coast coho ESU or displace them from their habitat.

These lists are not exhaustive. They are intended to provide some examples of the types of activities that might or might not be considered by NMFS as constituting a take of fish in the Oregon Coast coho ESU under the ESA and its regulations. Questions regarding whether specific activities would constitute a violation of the section 9 take and other prohibitions, and general inquiries regarding prohibitions and permits, should be directed to NMFS (see **ADDRESSES**).

Designating Critical Habitat

Methods and Criteria Used to Designate Critical Habitat

The following paragraphs and sections describe the relevant definitions and guidance found in the ESA and our implementing regulations, and the key methods and criteria we used to designate critical habitat after incorporating, as appropriate, comments and information received on the proposed rule.

Section 4 of the ESA (16 U.S.C. 1533(b)(2) and our regulations at 50 CFR 424.12(a) require that we designate critical habitat, and make revisions thereto, ''on the basis of the best scientific data available.'' Section 3 of the ESA (16 U.S.C. 1532(5)) defines critical habitat as ''(i) the specific areas within the geographical area occupied by the species, at the time it is listed * * * on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed upon a determination by the Secretary that such areas are essential for the conservation of the species.'' Section 3 of the ESA (16 U.S.C. 1532(3)) also defines the terms ''conserve,'' ''conserving,'' and ''conservation'' to 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.''

Pursuant to our regulations, when identifying physical or biological features essential to conservation, we consider the following requirements of the species: (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, or rearing of offspring;

and, generally, (5) habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of the species (see 50 CFR 424.12(b)). In addition to these factors, we also focus on the more specific primary constituent elements (PCEs) within the occupied areas that are essential to the conservation of the species. The regulations identify PCEs as including, but not limited to: ''roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.'' For an area containing PCEs to meet the definition of critical habitat, we must conclude that the PCEs in that area ''may require special management considerations or protection.'' Our regulations define special management considerations or protection as ''any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.'' Both the ESA and our regulations, in recognition of the divergent biological needs of species, establish criteria that are species specific rather than a ''one size fits all'' approach.

Our regulations state that, ''[t]he Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species' (50 CFR 424.12(e)). Accordingly, when the best available scientific data do not demonstrate that the conservation needs of the species so require, we will not designate critical habitat in areas outside the geographic area occupied by the species.

Section 4 of the ESA (16 U.S.C. 1533(b)(2)) requires that, before designating critical habitat, we consider the economic impacts, impacts on national security, and other relevant impacts of specifying any particular area as critical habitat, and the Secretary may exclude any area from critical habitat if the benefits of exclusion outweigh the benefits of designation, unless excluding an area from critical habitat will result in the extinction of the species. This exercise of discretion must be based upon the best scientific and commercial data. Once critical habitat for a salmon or steelhead ESU is designated, section 7(a)(2) of the ESA requires that each Federal agency, in consultation with and with the assistance of NMFS, ensure that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat.

Identifying the Geographical Area Occupied by the Species and Specific Areas Within the Geographical Area

In past critical habitat designations, we had concluded that the limited availability of species distribution data prevented mapping salmonid critical habitat at a scale finer than occupied river basins (65 FR 7764; February 16, 2000). Therefore, the 2000 designations defined the ''geographical area occupied by the species, at the time of listing'' as all accessible river reaches within the current range of the listed species.

In the 2004 proposed rule to designate critical habitat for 13 ESUs of Pacific salmon and steelhead (69 FR 74572; December 14, 2004) we described in greater detail that, since the previous designations in 2000, we can now be more precise about the ''geographical area occupied by the species'' because Federal, state, and tribal fishery biologists have made progress documenting and mapping actual species distribution at the level of stream reaches. Moreover, much of the available data can now be accessed and analyzed using Geographic Information System (GIS) software to produce consistent and fine-scale maps (NMFS, 2007b; StreamNet, 2005). The current maps document fish presence by identifying occupied stream reaches where the species has been observed. It also identifies stream reaches where the species is presumed to occur based on the professional judgment of biologists familiar with the watershed (although in some cases there are streams classified as occupied based on professional judgment when in fact the species has been observed but the GIS data have not been updated). We made use of these finer-scale data for the final critical habitat designations for 12 Pacific Northwest ESUs (70 FR 52630; September 2, 2005), as well as for the current critical habitat designation. We believe that this approach enables a more accurate delineation of the ''geographical area occupied by the species'' referred to in the ESA definition of critical habitat. We received some comments on this approach, some in support and some against it (see comments in final critical habitat designations for 12 Pacific Northwest ESUs, 70 FR 52630, September 2, 2005). However, none of the latter comments described a specific methodology that would yield a better approach than what we used.

We are now also able to identify ''specific areas'' (ESA section 3(5)(a)) and ''particular areas'' (ESA section 4(b)(2)) at a finer scale than in 2000. Since 2000, various Federal agencies have mapped fifth field hydrologic units (referred to as ''HUC5s'' or ''watersheds'') throughout the Pacific Northwest using USGS mapping conventions (Seaber *et al.*, 1986). This information is now generally available via the internet (NMFS, 2007b), and we have expanded our GIS resources to use these data. As in the 2000 designations (in which we used larger fourth field hydrologic units), we used the HUC5s to organize critical habitat information systematically and at a scale that is applicable to the spatial distribution of salmon. Organizing information at this scale is especially relevant to salmonids, since their innate homing ability allows them to return to the watersheds where they were born. Such site fidelity results in spatial aggregations of salmonid populations that generally correspond to the area encompassed by subbasins or HUC5 watersheds (Washington Department of Fisheries *et al.*, 1992; Kostow, 1995; McElhany *et al.*, 2000). As noted above regarding our use of finer scale data, none of the comments received provided us with a specific alternative methodology that would yield a better approach than the watershed-scale approach we adopted.

The USGS maps watershed units 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 HUC5 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 at a scale that often corresponds well to salmonid population structure and ecological processes. Although we are designating only the streams and not the entire watershed, our documents frequently refer to the ''specific areas'' as ''watersheds'' because that is the term often used as a convenient shorthand. We also refer to the stream reaches as ''habitat areas.'' Each watershed was reviewed by the CHART to verify occupation, PCEs, and special management considerations (see ''Critical Habitat Analytical Review Team'' section below).

The watershed-scale aggregation of stream reaches also allowed us to analyze the impacts of designating a ''particular area,'' as required by ESA section 4(b)(2). As a result of watershed

processes, many activities occurring in riparian or upland areas and in non-fish-bearing streams may affect the physical or biological features essential to conservation in the occupied stream reaches. The watershed boundary thus describes an area in which Federal activities have the potential to affect critical habitat (Spence *et al.*, 1996). Using watershed boundaries for the economic analysis ensured that all potential economic impacts were considered. Section 3(5) defines critical habitat in terms of ''specific areas,'' and section 4(b)(2) requires the agency to consider certain factors before designating ''particular areas.'' In the case of West Coast salmon and steelhead, the biology of the species, the characteristics of their habitat, the nature of the impacts, and the limited information currently available at finer geographic scales made it appropriate to consider ''specific areas'' and ''particular areas'' as the same unit for purposes of economic exclusions.

Occupied estuarine and marine areas were also considered in the context of defining ''specific areas.'' In our proposed rule (69 FR 74572; December 14, 2004) we noted that estuarine areas are crucial for juvenile salmonids, given their multiple functions as areas for rearing/feeding, freshwater-saltwater acclimation, and migration (Simenstad *et al.*, 1982; Marriott *et al.*, 2002). Within the geographic range of the Oregon Coast coho ESU all estuaries fall within the boundaries of a HUC5 and so were assessed along with upstream freshwater habitats within the watershed. In all occupied estuarine areas we were able to identify physical or biological features essential to the conservation of the species, and that may require special management considerations or protection. For those estuarine areas designated as critical habitat we are again delineating them in similar terms to our past designations, as being defined by a line connecting the furthest land points at the estuary mouth.

In previous designations of salmonid critical habitat we did not designate offshore marine areas (with the exception of deep waters in Puget Sound (65 FR 7764, February 16, 2000; 70 FR 52630, September 2, 2005). In the Pacific Ocean, we concluded that there may be essential habitat features, but we could not identify any special management considerations or protection associated with them as required under section 3(5)(A)(I) of the ESA (65 FR 7776; February 16, 2000). Since that time we have carefully considered the best available scientific information, and related agency actions, such as the designation of Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act. We believe that forage species are a feature in the Pacific Ocean that are essential for salmon conservation and that may require special management considerations or protection, at least for those forage species that are a target of human harvest. However, because salmonids are opportunistic feeders we could not identify ''specific areas'' beyond the nearshore marine zone where these or other essential features are found within this vast geographic area occupied by salmon and steelhead. In contrast to estuarine and nearshore areas, we conclude that it is not possible to identify ''specific areas'' in the Pacific Ocean that contain essential features for salmonids, and, therefore, we are not designating critical habitat in offshore marine areas. We requested comment on this issue in our proposed rule but did not receive comments or information that would change our conclusion (70 FR 52630, September 2, 2005).

Primary Constituent Elements

In determining what areas are critical habitat, agency regulations at 50 CFR 424.12(b) require that we ''consider those physical or biological features that are essential to the conservation of a given species * * *, including space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.'' The regulations further direct us to ''focus on the principal biological or physical constituent elements * * * that are essential to the conservation of the species,'' and specify that the ''known primary constituent elements shall be listed with the critical habitat description.'' The regulations identify PCEs as including, but not limited to: ''roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.''

NMFS biologists developed a list of PCEs that are essential to the species' conservation and based on the unique life history of salmon and steelhead and their biological needs (Hart, 1973; Beauchamp *et al.*, 1983; Laufle *et al.*, 1986; Pauley *et al.*, 1986, 1988, and 1989; Groot and Margolis, 1991; Spence *et al.*, 1996). Guiding the identification of PCEs was a decision matrix we developed for use in ESA section 7 consultations (NMFS, 1996b) which describes general parameters and characteristics of most of the essential features under consideration in this critical habitat designation. We identified these PCEs and requested comment on them in the advance notice of proposed rulemaking (ANPR)(68 FR 55931; September 29, 2003) and proposed rule (69 FR 74636; December 14, 2005) but did not receive information to support changing them. These PCEs include sites essential to support one or more life stages of the ESU (sites for spawning, rearing, migration and foraging). These sites in turn contain physical or biological features essential to the conservation of the ESU (for example, spawning gravels, water quality and quantity, side channels, forage species). The specific PCEs include:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development. These features are essential to conservation because without them the species cannot successfully spawn and produce offspring.

2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks. These features are essential to conservation because without them juveniles cannot access and use the areas needed to forage, grow, and develop behaviors (e.g., predator avoidance, competition) that help ensure their survival.

3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival. These features are essential to conservation because without them juveniles cannot use the variety of habitats that allow them to avoid high flows, avoid predators, successfully compete, begin the behavioral and physiological changes needed for life in the ocean, and reach the ocean in a timely manner. Similarly, these features are essential for adults because they allow fish in a non-feeding condition to successfully swim

upstream, avoid predators, and reach spawning areas on limited energy stores.

4. Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation. These features are essential to conservation because without them juveniles cannot reach the ocean in a timely manner and use the variety of habitats that allow them to avoid predators, compete successfully, and complete the behavioral and physiological changes needed for life in the ocean. Similarly, these features are essential to the conservation of adults because they provide a final source of abundant forage that will provide the energy stores needed to make the physiological transition to fresh water, migrate upstream, avoid predators, and develop to maturity upon reaching spawning areas.

5. Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels. As in the case with freshwater migration corridors and estuarine areas, nearshore marine features are essential to conservation because without them juveniles cannot successfully transition from natal streams to offshore marine areas. We have focused our designation on nearshore areas in Puget Sound because of its unique and relatively sheltered fjord-like setting (as opposed to the more open coastlines of Washington and Oregon).

6. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation. These features are essential for conservation because without them juveniles cannot forage and grow to adulthood. However, for the reasons stated previously in this document, it is difficult to identify specific areas containing this PCE as well as human activities that may affect the PCE condition in those areas. Therefore, we have not designated any specific areas based on this PCE but instead have identified it because it is essential to the species' conservation, and specific offshore areas may be identified in the future (in which case any revision to this designation would be subject to separate rulemaking).

The occupied habitat areas designated in this final rule contain PCEs required to support the biological processes for Oregon Coast coho using the habitat. The CHART verified this for each watershed/nearshore zone by relying on the best available scientific data (including species distribution maps, watershed analyses, and habitat surveys) during its review of occupied areas and resultant assessment of area conservation values (NMFS, 2007b). The contribution of the PCEs varies by site and biological function such that the quality of the elements may vary within a range of acceptable conditions. The CHART took this variation into account when it assessed the conservation value of an area.

Special Management Considerations or Protections

An occupied area meets the definition of critical habitat only if it contains physical and biological features that ''may require special management considerations or protection.'' Agency regulations at 50 CFR 424.02(j) define ''special management considerations or protection'' to mean ''any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.''

As part of the biological assessment described below under ''Critical Habitat Analytical Review Team,'' a team of biologists examined each habitat area to determine whether the physical or biological features may require special management consideration. These determinations are identified for each area in the final CHART report for the Oregon Coast coho ESU (NMFS, 2007b). Consistent with the final critical habitat designations for 12 Pacific Northwest ESUs (70 FR 52630; September 2, 2005), the CHART identified a variety of activities that threaten the physical and biological features essential to listed salmon and steelhead (see review by Spence *et al.*, 1996), including: (1) Forestry; (2) grazing; (3) agriculture; (4) road building/maintenance; (5) channel modifications/diking; (6) urbanization; (7) sand and gravel mining; (8) mineral mining; (9) dams; (10) irrigation impoundments and withdrawals; (11) river, estuary, and ocean traffic; (12) wetland loss/removal; (13) beaver removal; and (14) exotic/invasive species introductions. In addition to these, the harvest of salmonid prey species (e.g., forage fishes such as herring, anchovy, and sardines) may present another potential habitat-related management activity (Pacific Fishery Management Council, 1999).

Unoccupied Areas

ESA section 3(5)(A)(ii) defines critical habitat to include ''specific areas outside the geographical area occupied'' if the areas are determined by the Secretary to be ''essential for the conservation of the species.'' NMFS regulations at 50 CFR 424.12(e) emphasize that we ''shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' For the Oregon Coast coho ESU we are not designating unoccupied areas at this time. The CHART did not identify any unoccupied areas that may be essential for the conservation of the Oregon Coast coho ESU. Thus, we are not designating any unoccupied areas at this time. Any future designation of unoccupied areas would be based on the required determination that such area is essential for the conservation of the ESU and would be subject to separate rulemaking with the opportunity for notice and comment.

Lateral Extent of Critical Habitat

In past designations we have described the lateral extent of critical habitat in various ways, ranging from fixed distances to ''functional'' zones defined by important riparian functions (65 FR 7764; February 16, 2000). Both approaches presented difficulties, and this was highlighted in several comments (most of which requested that we focus on aquatic areas only) received in response to the ANPR (68 FR 55926; September 29, 2003). Designating a set riparian zone width will (in some places) accurately reflect the distance from the stream on which PCEs might be found, but in other cases may over- or understate the distance. Designating a functional buffer avoids that problem, but makes it difficult for Federal agencies to know in advance what areas are critical habitat. To address these issues we have defined the lateral extent of designated critical habitat as the width of the stream channel defined by the ordinary high-water line as defined by the USACE in 33 CFR 329.11. This approach is consistent with the specific mapping requirements described in agency regulations at 50 CFR 424.12(c)). In areas for which ordinary high-water has not been defined pursuant to 33 CFR 329.11, the width of the stream channel shall be defined by its bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain

(Rosgen, 1996) and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series (Leopold *et al.*, 1992). Such an interval is commensurate with the juvenile freshwater life phases of coho salmon. Therefore, it is reasonable to conclude that for an occupied stream reach this lateral extent is regularly ''occupied.'' Moreover, the bankfull elevation can be readily discerned for a variety of stream reaches and stream types using recognizable water lines (e.g., marks on rocks) or vegetation boundaries (Rosgen, 1996).

As underscored in previous critical habitat designations, the quality of aquatic habitat within stream channels is intrinsically related to the adjacent riparian zones and floodplain, to surrounding wetlands and uplands, and to non-fish-bearing streams above occupied stream reaches. Human activities that occur outside the stream can modify or destroy physical and biological features of the stream. In addition, human activities that occur within and adjacent to reaches upstream (e.g., road failures) or downstream (e.g., culverts and dams) of designated stream reaches can also have demonstrable effects on physical and biological features of designated reaches.

In the relatively few cases where we are designating lake habitats (e.g., Devils, Siltcoos, Tahkenitch, Sand, and Tenmile lakes), we believe that the lateral extent may best be defined as the perimeter of the water body as displayed on standard 1:24,000 scale topographic maps or the elevation of ordinary high water, whichever is greater. In estuarine areas we believe that extreme high water is the best descriptor of lateral extent. As noted above for stream habitat areas, human activities that occur outside the area inundated by extreme or ordinary high water can modify or destroy physical and biological features of the estuarine habitat areas, and Federal agencies must be aware of these important habitat linkages as well.

Critical Habitat Analytical Review Team

To assist in the designation of critical habitat, we convened a CHART for the Oregon Coast domain. The CHART consisted of eight Federal biologists and habitat specialists from NMFS, USFS, and BLM, with demonstrated expertise regarding salmonid habitat and related protective efforts within the domain. The CHART was tasked with assessing biological information pertaining to areas under consideration for designation as critical habitat. The CHART also reconvened to review the public comments and any new information regarding the ESU and its habitat. Its work and determinations are documented in a final CHART report (NMFS, 2007b).

The CHART examined each habitat area within a watershed to determine whether the stream reaches or lakes occupied by the Oregon Coast coho contain the physical or biological features essential to conservation. As noted previously, the CHART also relied on its experience conducting ESA section 7 consultations and existing management plans and protective measures to determine whether these features may require special management considerations or protection. In addition to occupied areas, the definition of critical habitat also includes unoccupied areas if we determine the area is essential for conservation. Accordingly, the CHART was next asked whether there were any unoccupied areas within the historical range of the ESU that may be essential for conservation. The CHART did not identify any such unoccupied areas.

The CHART was next asked to determine the relative conservation value of each area for each ESU. The CHART scored each habitat area based on several factors related to the quantity and quality of the physical and biological features. It 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 CHART rated each habitat area as having a ''high,'' ''medium,'' or ''low'' conservation value. The preliminary CHART ratings were reviewed by several state and tribal comanagers in advance of the proposed rule, and the CHART made needed changes prior to that rule. State and tribal comanagers also evaluated our proposed rule (69 FR 74572; December 14, 2004) and provided comments and new information which were also reviewed and incorporated as needed by the CHART in the preparation of this final designation.

The rating of habitat areas as having a high, medium, or low conservation value provided information useful to inform the Secretary's exercise of discretion in determining whether the benefits of exclusion outweigh the benefits of designation (i.e., ESA section 4(b)(2)). The higher the conservation value for an area, the greater the likely benefit of the ESA section 7 protections. We recognized that the ''benefit of designation'' would also depend on the likelihood of a consultation occurring and the improvements in species' conservation that may result from changes to proposed Federal actions. To address this concern, we asked the CHART to develop a profile for a ''low leverage'' watershed—that is, a watershed where it was unlikely there would be a section 7 consultation, or where a section 7 consultation, if it did occur, would yield few conservation benefits. For watersheds not meeting the ''low leverage'' profile, we considered their conservation rating to be a fair assessment of the benefit of designation. For watersheds meeting the ''low leverage'' profile, we considered the benefit of designation to be an increment lower than the conservation rating. For example, a watershed with a ''high'' conservation value but ''low leverage'' was considered to have a ''medium'' benefit of designation, and so forth (NMFS, 2007b).

As discussed earlier, the scale chosen for the ''specific area'' referred to in section 3(5)(a) was a watershed, as delineated by USGS methodology. There were some complications with this delineation that required us to adapt the CHARTs' approach for some areas. In particular, a large stream or river might serve as a rearing and migration corridor to and from many watersheds, yet be embedded itself in a watershed. In any given watershed through which it passes, the stream may have a few or several tributaries. For rearing/migration corridors embedded in a watershed, the CHART was asked to rate the conservation value of the watershed based on the tributary habitat. We assigned the rearing/migration corridor the rating of the highest-rated watershed for which it served as a rearing/migration corridor. The reason for this treatment of migration corridors is the role they play in the salmon's life cycle. Salmon are anadromous—born in fresh water, migrating to salt water to feed and grow, and returning to fresh water to spawn. Without a rearing/migration 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 rearing/migration corridor as having a similar conservation value.

Application of ESA Section 4(b)(2) (16 U.S.C. 1533(b)(2))

The foregoing discussion describes those areas that are eligible for designation as critical habitat—the specific areas that fall within the ESA section 3(5)(A) definition of critical habitat. However, specific areas eligible

for designation are not automatically designated as critical habitat. Section 4(b)(2) of the ESA requires the Secretary to first consider the economic impact, impact on national security, and any other relevant impact of designation. The Secretary has the discretion to exclude an area from designation if he determines the benefits of exclusion (that is, avoiding the impact that would result from designation) outweigh the benefits of designation based upon best scientific and commercial data. The Secretary may not exclude an area from designation if exclusion will result in the extinction of the species. Because the authority to exclude is discretionary, exclusion is not required for any areas. In this rulemaking, the Secretary has applied his statutory discretion to exclude areas from critical habitat for several different reasons (NMFS, 2007d).

In this exercise of discretion, the first issue we must address is the scope of impacts relevant to the ESA section 4(b)(2) evaluation. We proposed new critical habitat designations for 13 Pacific Northwest ESUs, including the Oregon Coast coho ESU (69 FR 74572; December 14, 2004), because the previous designations were vacated following a Court ruling that we had inadequately considered the economic impacts of designating critical habitat. (*National Association of Homebuilders* v. *Evans*, 2002 WL 1205743 No. 00–CV–2799 (D.D.C.) (NAHB)). The *NAHB* court had agreed with the reasoning of the Court of Appeals for the Tenth Circuit in *New Mexico Cattle Growers Association* v. *U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001). In that decision, the Tenth Circuit stated ''[t]he statutory language is plain in requiring some kind of consideration of economic impact in the critical habitat designation phase.'' The court concluded that, given the FWS' failure to distinguish between ''adverse modification'' and ''jeopardy'' in its 4(b)(2) analysis, the FWS must analyze the full impacts of critical habitat designation, regardless of whether those impacts are coextensive with other impacts (such as the impact of the jeopardy requirement).

In redesignating critical habitat for the 13 Pacific Northwest ESUs, we followed the Tenth Circuit Court's directive regarding the statutory requirement to consider the economic impact of designation. Areas designated as critical habitat are subject to ESA section 7 requirements, which provide that Federal agencies ensure that their actions are not likely to destroy or adversely modify critical habitat. To evaluate the economic impact of critical habitat we first examined our voluminous section 7 consultation record for Oregon Coast coho as well as other ESUs of salmon and steelhead. (For thoroughness, we examined the consultation record for other ESUs to see if it provided information relevant to Oregon Coast coho.) 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 distinction between the impacts of applying the jeopardy provision versus the adverse modification provision in occupied critical 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—to measure the coextensive impacts; that is, measure 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.

The Tenth Circuit's opinion only addressed ESA section 4(b)(2)'s requirement that economic impacts be considered. 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 consideration of other relevant impacts of designation, and the benefits of designation, and because our record did not support a distinction between impacts resulting from application of the adverse modification provision versus the jeopardy provision, we are uniformly considering coextensive impacts and coextensive benefits, without attempting to distinguish the benefit of a critical habitat consultation from the benefit that would otherwise result from a jeopardy consultation that would occur even if critical habitat were not designated. To do otherwise would distort the balancing test contemplated by section 4(b)(2).

The principal benefit of designating critical habitat is that Federal activities that may affect such habitat are subject to consultation pursuant to section 7 of the ESA. Such consultation 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 critical habitat. This complements the section 7 provision that Federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species. Another benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area and thereby focus and contribute to conservation efforts by clearly delineating areas of high conservation value for certain species. It is unknown to what extent this process actually occurs for Oregon Coast coho, and what the actual benefit is to Oregon Coast coho, as there are also concerns, noted above, that a critical habitat designation may discourage such conservation efforts.

The balancing test in ESA section 4(b)(2) contemplates weighing benefits that are not directly comparable—the benefit associated with species conservation 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. Agencies are frequently required to balance benefits of regulations against impacts; Executive Order (E.O.) 12866 established this requirement for Federal agency regulations. Ideally such a balancing would involve first translating the benefits and impacts into a common metric. Executive branch guidance from the OMB suggests that benefits should first be monetized (i.e., 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 that would support such an analysis for salmon. In addition, ESA 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 designations, impacts to Northwest tribes are an ''other relevant impact'' that also may be difficult to monetize.

An alternative approach, approved by OMB (OMB, 2003), 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 reliably the benefits of including particular areas in the critical habitat designation. 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. The qualitative ordinal evaluations can then be combined with estimates of the economic costs of critical habitat designation in a framework that arguably moves the designation to a more efficient outcome. Individual habitat areas are assessed using both their biological evaluation and economic cost, so that areas with high conservation value and lower economic cost might be considered to have a higher priority for designation, while areas with a low conservation value and higher economic cost might have a higher priority for exclusion. While this approach can provide useful information to the decision-maker, there is no rigid formula through which this information translates into exclusion decisions. Every geographical area containing habitat eligible for designation is different, with a unique set of ''relevant impacts'' that may be considered in the exclusion process. Regardless of the analytical approach, ESA section 4(b)(2) makes clear that what weight the agency gives various impacts and benefits, and whether the agency excludes areas from the designation, is discretionary.

Exclusions Based on Impacts to Tribes

A broad array of activities on Indian lands may trigger section 7 consultation under the ESA. For this analysis, we considered what those activities may be and what the likely effect would be on conservation of the Oregon Coast coho ESU if the activities were not subject to section 7 consultation. (We realize that the activities in question would still be subject to section 7 consultation and to the requirement that Federal agencies not jeopardize species' continued existence. However, as described above, because we cannot discern a difference in the application of the jeopardy and adverse modification requirements in our consultations for Oregon coast coho, we are considering coextensive impacts and coextensive benefits.) To determine the benefit of designation, we considered the number of stream miles within Indian lands, whether those stream miles were located in high, medium, or low conservation value areas, and the number of expected section 7 consultations in those areas (NMFS, 2007f).

There are several benefits to excluding Indian lands. 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, Indian lands are recognized as unique and 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.

In addition to the distinctive trust relationship, for salmon and steelhead in the Northwest, there is a unique partnership between the Federal Government and Indian tribes regarding salmon management. Two of the four tribes with land in Oregon coast coho critical habitat are active participants in local watershed restoration and management aimed at coho conservation (NMFS, 2007f).

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 Oregon coast coho; and (3) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs. Regarding benefits of designation, many actions on Indian lands involve the Bureau of Indian Affairs (BIA), triggering a section 7 consultation. This means the benefit of designating Indian land is potentially high. However, coho habitat on Indian lands represents a tiny proportion of overall habitat—2.7 stream miles (4.35 km) out of a total of 6,652. Accordingly, we find the benefits of promoting tribal sovereignty and the trust responsibility outweigh the benefits of applying ESA section 7 to Federal activities on these 2.7 miles (4.35 km) of coho habitat (NMFS, 2007f).

The Indian lands specifically excluded from critical habitat 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. We have determined that these exclusions, together with the other exclusions described in this rule, will not result in extinction of the species (NMFS, 2007d).

Exclusions Based on Economic Impacts

Our assessment of economic impact generated considerable interest from commenters on the ANPR (68 FR 55926; September 29, 2003) and the proposed rule (69 FR 74572; December 14, 2004). Based on new information and comments received on the proposed rule we have updated our estimates of economic impacts of designating each of the particular areas found to meet the definition of critical habitat (NMFS, 2007d). This report is available from NMFS (see **ADDRESSES**).

The first step in the overall economic analysis was to identify existing legal and regulatory constraints on economic activity that are independent of critical habitat designation, such as Clean Water Act (CWA) requirements. Coextensive impacts of the ESA section 7 requirement to avoid jeopardy 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 an ESA 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 ten types of activities including: Hydropower dams; non-hydropower dams and other water supply structures; Federal lands management, including grazing (considered separately); transportation projects; utility line projects; instream activities, including dredging (considered separately); activities permitted under the Environmental Protection Agency's (EPA's) National Pollution Discharge Elimination System; sand and gravel mining; residential and commercial development; and agricultural pesticide applications. Based on our consultation record and other available information, we determined the modifications each type of activity was likely to undergo as a result of section 7 consultation (regardless of whether the modification might be required by the jeopardy or the adverse modification provision). 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 (e.g., the USACE 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.

This analysis allowed us to estimate the coextensive economic impact of designating each ''particular area'' (that is, each habitat area, or aggregated occupied stream reaches in a watershed). Expected annual economic impacts in the Oregon Coast coho ESU ranged from zero to $869,861 per habitat area, with a median of $222,419. Where a watershed included both tributaries and a migration corridor that served other watersheds, we estimated the separate impacts of designating the tributaries and the migration corridor. We did this by identifying those categories of activities most likely to affect tributaries and those most likely to affect larger migration corridors.

Because of the methods we selected and the data limitations, portions of our analysis both under- and over-estimate the coextensive economic impact of ESA section 7 requirements. For example, we lacked complete data on the likely impact on flows at non-Federal hydropower projects, which would increase economic impacts. Also, we did not have information about potential changes in irrigation flows associated with section 7 consultation. These impacts would increase the estimate of coextensive costs. On the other hand, we estimated an impact on all activities occurring within the geographic boundaries of a watershed, even though in some cases activities would be far removed from occupied stream reaches and so might not require modification (or even consultation). In addition, we were unable to document significant costs of critical habitat designation that occur outside the section 7 consultation process, including costs resulting from state or local regulatory burdens imposed on developers and landowners as a result of a Federal critical habitat designation.

In determining whether the economic benefit of excluding a habitat area might outweigh the benefit of designation to the species, we took into account many data limitations, including those described above. The ESA requires that we make critical habitat designations within a short time frame ''with such data as may be available'' at the time. Moreover, the approach we adopted accommodated many of these data limitations by considering the relative benefits of designation and exclusion, giving priority to excluding habitat areas with a relatively lower benefit of designation and a relatively higher economic impact (NMFS, 2007d).

The circumstances of the Oregon Coast coho ESU are well suited to this approach. Coho salmon is a wide-ranging species that occupies numerous habitat areas with thousands of stream miles. Not all occupied areas, however, are of equal importance to conserving the ESU. Within the currently occupied range there are areas that support highly productive populations, areas that support less productive populations, and areas that support production in only some years. Some populations within the ESU may be more important to long-term conservation of the ESU than other populations. Therefore, in many cases it may be possible to construct different scenarios for achieving conservation. Different scenarios might have more or less certainty of achieving conservation, and more or less economic impact.

Our first step in constructing an exclusion scenario was to identify all areas we would consider for an economic exclusion, based on dollar thresholds. The next step was to examine whether any of the areas eligible for exclusion make an important contribution to conservation, in the context of the areas that remained (that is, those areas not identified as eligible for exclusion). We did not consider habitat areas for exclusion if they had a high conservation value rating. Based on the rating process used by the CHART we judged that all of the high value areas make an important contribution to conservation.

In developing criteria for the first step, we chose dollar thresholds that we anticipated would lead most directly to a more cost-effective scenario. We considered for exclusion low value habitat areas with an economic impact greater than $91,556 and medium value habitat areas with an economic impact greater than $323,138. These criteria we selected for identifying habitat areas as eligible for exclusion do not represent an objective determination that, for example, a given low value area is worth a certain dollar amount and no more. The statute directs us to balance dissimilar values under a statutorily-limited time frame. The statute emphasizes the discretionary nature of the section 4(b)(2) balancing task. Moreover, while our approach follows the Tenth Circuit's direction to consider coextensive economic impacts, we nevertheless must acknowledge that not all of the costs will be avoided by exclusion from designation. Finally, the cost estimates developed by our economic analysis do not have obvious break points that would lead to a logical division between ''high,'' ''medium,'' and ''low'' costs. Given these factors, a judgment that any particular dollar threshold is objectively ''right,'' would be neither necessary nor possible. Rather, what economic impact is ''high,'' and therefore might outweigh the benefit of designating a medium or low conservation value habitat area, is a matter of agency discretion and policy.

In the second step of the process, we asked the CHART whether any of the habitat areas eligible for exclusion make an important contribution to conservation. The CHART considered this question in the context of all of the areas eligible for exclusion as well as the information they had developed in providing the initial conservation ratings. The following section describes the results of applying the two-step process to the Oregon Coast coho ESU. The results are discussed in greater detail in a separate report that is available for public review and comment (NMFS, 2007d). We have determined that the exclusions, together with the other exclusions described in this rule (i.e., Indian lands), will not result in extinction of the species (NMFS, 2007d).

Summary of Changes From the Proposed Critical Habitat Designation

We evaluated the comments and new information received on the proposed rule to ensure that they represented the best scientific data available and made a number of general types of changes to the critical habitat designations, including:

(1) We revised habitat maps and related biological assessments based on a final CHART assessment (NMFS, 2007b) of information provided by commenters, peer reviewers, and agency biologists (including CHART members). We also evaluated watersheds to determine how well the conservation value rating corresponded to the benefit of designation, in particular the likelihood of an ESA section 7 consultation occurring in that area and whether the consultation would yield conservation benefits if it was likely to occur.

(2) We revised our economic analysis based on information provided by commenters and peer reviewers as well as our own efforts as referenced in the proposed rule and described in the final economic analysis (NMFS, 2007c). Major changes included assessing new impacts associated with pesticide consultations, revising Federal land management costs to take into account wilderness areas, and modifying the

analysis of Federal grazing land impacts to more accurately reflect the likely geographic extent of ESA section 7 implementation. We also documented the economic costs of changes in flow regimes for some hydropower projects. To account for inflationary changes in the economic impacts, we adjusted the cost estimates based on changes in a producer price index over the period 2005 to 2007 (NMFS 2007c).

(3) We conducted a new ESA section 4(b)(2) analysis based on economic impacts to take into account the above revisions. This resulted in the final exclusion of many of the same watersheds proposed for exclusion. It also resulted in some areas originally proposed for exclusion not being excluded. The analysis is described further in the 4(b)(2) report (NMFS, 2007d).

(4) In the regulations, we've removed reference to ''units'' to avoid possible confusion with the concept of ''recovery units'' as described in our section 7 handbook.

The following section summarizes the changes to the proposed critical habitat rule. These changes are also reflected in final agency reports pertaining to the biological, economic, and policy assessments supporting these designations (NMFS, 2007b; NMFS, 2007c; and NMFS, 2007d). We conclude that these changes are warranted based on new information and analyses that constitute the best scientific data available.

Description of Specific Changes

The CHART elevated the conservation value rating for five watersheds within the Umpqua River basin. The changes were made as a result of recent population identification work (Lawson *et al.*, 2007) that further subdivides this basin into four (versus two) independent populations. We made several changes to the delineation of occupied habitat areas based on comments and field surveys indicating that our original coho distribution maps/data were in error. As a result of revised economic data for this ESU and our final 4(b)(2) assessment, we are no longer excluding habitat areas in three watersheds that were previously proposed for designation. We have also removed Josephine and Jackson counties from the relevant critical habitat table in our regulations. These counties overlap slightly with upland areas in watersheds occupied by Oregon Coast coho salmon, but they do not contain stream reaches designated as critical habitat for this ESU. Table 1 summarizes the changes made for specific watersheds in the range of this ESU.

TABLE 1.—CHANGES TO CRITICAL HABITAT DESIGNATION FOR OREGON COAST COHO

Subbasin	Watershed code	Watershed name	Changes from proposed rule
NEHALEM	1710020206	Lower Nehalem River/Cook Creek.	Added 1.3 miles (2.1 km) of occupied habitat areas.
WILSON/TRASK/NESTUCCA	1710020302	Nestucca River	Added 4.2 miles (6.8 km) of occupied habitat areas and removed 3 miles (4.8 km) of unoccupied stream reaches.
NORTH UMPQUA	1710030106	Boulder Creek	No longer excluded from designation.
NORTH UMPQUA	1710030110	Rock Creek/North Umpqua River.	Added 1.8 miles (2.9 km) of occupied habitat areas.
SOUTH UMPQUA	1710030202	Jackson Creek	Elevated HUC5 conservation value from Low to Medium. No longer excluded from designation.
SOUTH UMPQUA	1710030204	Elk Creek/South Umpqua	Elevated HUC5 conservation value from Low to Medium. No longer excluded from designation.
SOUTH UMPQUA	1710030205	South Umpqua River	Removed 2 miles (3.2 km) of unoccupied stream reaches.
SOUTH UMPQUA	1710030207	Middle Cow Creek	Elevated HUC5 conservation value from Medium to High.
SOUTH UMPQUA	1710030209	Lower Cow Creek	Removed 3 miles (4.8 km) of unoccupied stream reaches.
SOUTH UMPQUA	1710030211	Myrtle Creek	Elevated HUC5 conservation value from Medium to High.
UMPQUA	1710030301	Upper Umpqua River	Removed 2 miles (3.2 km) of unoccupied stream reaches.
UMPQUA	1710030303	Elk Creek	Removed 1 mile (1.6 km) of unoccupied stream reaches and elevated HUC5 conservation value from Medium to High.
UMPQUA	1710030304	Middle Umpqua River	Removed 1.5 mile (2.4 km) of unoccupied stream reaches.
UMPQUA	1710030305	Lake Creek	Removed 5.3 mile (8.5 km) of unoccupied stream reaches.
COQUILLE	1710030504	East Fork Coquille	Removed 1.5 mile (2.4 km) of unoccupied stream reaches.

Final Critical Habitat Designation

We are designating approximately 6,568 stream miles (10,570 km) and 15 square miles (38.8 sq km) of lake habitat within the geographical area presently occupied by the Oregon Coast coho ESU (see Table 2). The Oregon Coast coho ESU is the only listed species in this domain, so the areas designated as critical habitat do not overlap with critical habitat areas designated for other listed ESUs.

TABLE 2.—APPROXIMATE QUANTITY OF HABITAT AND OWNERSHIP WITHIN WATERSHEDS CONTAINING HABITAT AREAS DESIGNATED AS CRITICAL HABITAT FOR THE EVOLUTIONARILY SIGNIFICANT UNIT OF OREGON COAST COHO SALMON (ONCORHYNCHUS KISUTCH)

Streams mi (km)	Lakes sq mi (sq km)	Nearshore marine mi (km)	Land ownership type (percent)			
			Federal	Tribal	State	Private
6,568 (10,570)	15 (38.8)	n/a	32.9	<0.1	9.1	58.0

The areas designated, summarized below, are all occupied and contain physical and biological features essential to the conservation of the species and that may require special management considerations or protection. No unoccupied areas were identified that are considered essential for the conservation of the species. There are 80 watersheds within the range of this ESU. Eight watersheds received a low conservation value rating, 27 received a medium rating, and 45 received a high rating to the ESU (NMFS, 2007b). As a result of the balancing process for economic impacts described above, the Secretary is excluding from the designation the five watersheds listed in Table 3. Of the habitat areas eligible for designation, approximately 84 stream miles (135 km) or 1.3 percent are being excluded because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be $22.2 million. The exclusions identified in Table 3 would reduce the total estimated economic impact to $20.1 million (NMFS, 2007d).

TABLE 3.—HABITAT AREAS WITHIN THE GEOGRAPHICAL RANGE OF THE EVOLUTIONARILY SIGNIFICANT UNIT OF OREGON COAST COHO SALMON (ONCORHYNCHUS KISUTCH) AND EXCLUDED FROM CRITICAL HABITAT

Subbasin	Watershed code	Watershed name	Area proposed for exclusion
North Fork Umpqua River subbasin	1710030108	Steamboat Creek	Entire watershed.
North Fork Umpqua River subbasin	1710030109	Canton Creek	Entire watershed.
South Fork Umpqua River subbasin	1710030201	Upper South Umpqua River	Entire watershed.
Umpqua River subbasin	1710030305	Lake Creek	Entire watershed.
Coquille River subbasin	1710030501	Coquille South Fork, Lower	Entire watershed.

Effects of Critical Habitat Designation

ESA Section 7 Consultation

Section 7(a) of the ESA requires Federal agencies, including NMFS, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this provision of the ESA are codified at 50 CFR 402.

If a species is listed or critical habitat is designated, ESA section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, we would review actions to determine if they would destroy or adversely modify critical habitat.

If we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we will also provide reasonable and prudent alternatives to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that we believe would avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Activities on Federal lands that may affect these ESUs or their critical habitat will require ESA section 7 consultation. Activities on private or state lands requiring a permit from a Federal agency, such as a permit from the USACE under section 404 of the CWA, a section 10(a)(1)(B) permit from NMFS, or some other Federal action, including funding (e.g., Federal Highway Administration (FHA) or Federal Emergency Management Agency (FEMA) funding), will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal and private lands that are not Federally funded, authorized, or permitted do not require section 7 consultation.

Activities Affected by Critical Habitat Designation

Section 4(b)(8) of the ESA requires that we evaluate briefly and describe, in any proposed or final regulation that designates critical habitat, those activities involving a Federal action that may adversely modify such habitat or that may be affected by such designation. A wide variety of activities may affect critical habitat and, when carried out, funded, or authorized by a Federal agency, require that an ESA section 7 consultation be conducted. Generally these include water and land management actions of Federal agencies (e.g., USFS, BLM, USACE, BOR, the FHA, the National Resource Conservation Service (NRCS), National Park Service (NPS), BIA, and FERC) and related or similar actions of other Federally regulated projects and lands, including livestock grazing allotments by the USFS and BLM; hydropower sites licensed by the FERC; dams built or operated by the USACE or BOR; timber sales and other vegetation management activities conducted by the USFS, BLM, and BIA; irrigation diversions authorized by the USFS and BLM; road building and maintenance activities authorized by the FHA, USFS, BLM, NPS, and BIA; and mining and road building/maintenance activities authorized by the states of Washington, Oregon, and Idaho. Other actions of concern include dredge and fill, mining, diking, and bank stabilization activities authorized or conducted by the USACE, habitat modifications authorized by the FEMA, and approval of water quality standards and pesticide labeling and use restrictions administered by the EPA.

The Federal agencies that will most likely be affected by this critical habitat designation include the USFS, BLM, BOR, USACE, FHA, NRCS, NPS, BIA, FEMA, EPA, and the FERC. This designation will provide these agencies, private entities, and the public with clear notification of critical habitat designated for listed salmonids and the boundaries of the habitat. This designation will also assist these agencies and others in evaluating the potential effects of their activities on listed salmon and their critical habitat and in determining if ESA section 7 consultation with NMFS is needed.

As noted above, numerous private entities also may be affected by this critical habitat designation because of the direct and indirect linkages to an array of Federal actions, including Federal projects, permits, and funding. For example, private entities may harvest timber or graze livestock on Federal land or have special use permits to convey water or build access roads across Federal land; they may require Federal permits to armor stream banks, construct irrigation withdrawal facilities, or build or repair docks; they may obtain water from Federally funded and operated irrigation projects; or they may apply pesticides that are only available with Federal agency approval. These activities will need to be analyzed with respect to their potential to destroy or adversely modify critical habitat. In some cases, proposed activities may require modifications that may result in decreases in activities such as timber harvest and livestock and crop production. The transportation and utilities sectors may need to modify the placement of culverts, bridges, and utility conveyances (e.g., water, sewer and power lines) to avoid barriers to fish migration. Developments occurring in or near salmon streams (e.g., marinas, residential, or industrial facilities) that require Federal authorization or funding may need to be altered or built in a manner that ensures that critical habitat is not destroyed or adversely modified as a result of the construction, or subsequent operation, of the facility. These are just a few examples of potential impacts, but it is clear that the effects will encompass numerous sectors of private and public activities. If you have questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat, contact NMFS (see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**).

Classification

Administrative Procedure Act

The proposed listing determination, proposed protective regulations, and proposed critical habitat designation addressing 27 ESUs generated substantial public interest. In addition to comments received during 12 public hearings, we received 33,480 written comments. Many of the comments addressing the critical habitat designation expressed concerns about how the rule would be implemented. Our experience in implementing previous listing determinations, protective regulations, and critical habitat designations suggests that neither the Administrative Procedure Act (APA) and ESA implementing regulations' minimum of a 30-day delay in effective date, nor the 60-day delay in effective date required by the Congressional Review Act for a ''major rule,'' are sufficient for this final rule. In order to provide for efficient administration of the rule once effective, we are providing a 90-day delay in effective date. As a result this rule will be effective on May 12, 2008. This will allow us the necessary time to provide for outreach to and interaction with the public, to minimize confusion and educate the public about activities that may be affected by the rule, and to work with Federal agencies and applicants to provide for an orderly implementation of the rule.

National Environmental Policy Act (NEPA)

ESA listing decisions are exempt from the requirement to prepare an environmental assessment or environmental impact statement under the NEPA. See NOAA Administrative Order 216–6.03(e)(1) and *Pacific Legal Foundation* v. *Andrus,* 657 F.2d 825 (6th Cir. 1981). Thus, we have determined that the final listing determination for Oregon Coast coho described in this notice is exempt from the requirements of the NEPA. Similarly, we have determined that we need not prepare environmental analyses for critical habitat designations made pursuant to the ESA. See *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied, 516 U.S. 1042 (1996).

We conducted Environmental Assessments (EAs) under the NEPA analyzing the ESA section 4(d) regulations promulgated in 2000 for Pacific salmonids (65 FR at 42422 and 42481; July 10, 2000) and the amendments to the 4(d) regulations promulgated in 2005 (70 FR 37160; June 28, 2005). Both EAs analyzed the protective regulations for the Oregon Coast coho ESU which are being finalized in this notice. We solicited comment on the EAs as part of the proposed rules, as well as during a subsequent comment period following formal notice in the **Federal Register** of the availability of the draft EAs for review. We have reviewed new information available since the 2000 and 2005 analyses and determined that none of the new information would change the earlier analyses, nor would it change our conclusion that adoption of the 4(d) rule will have no significant impacts on the human environment (NMFS, 2007g).

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). For the proposed designation of critical habitat for 13 ESUs, including Oregon coast coho, we published an Initial Regulatory Flexibility Act Analysis for public comment. We received comments specific to some of the ESUs, but not to Oregon Coast coho. We received one general comment, stating that our analysis should include more references. We have prepared a final regulatory flexibility analysis for the designation of critical habitat, which is available upon request (see **ADDRESSES**) and which includes additional references. This analysis estimates that the number of regulated small entities potentially affected by the final critical habitat designation for the Oregon Coast coho salmon ESU is 920, and the estimated coextensive costs of section 7 consultation incurred by small entities is $5,072,840. As described in the analysis, we considered various alternatives for designating critical habitat for this ESU. We considered and rejected the alternative of not designating critical habitat for the ESU because such an approach did not meet the legal requirements of the ESA. We also examined and rejected an alternative in which all the eligible habitat areas in the ESU are designated (i.e., no areas are excluded) because many of the areas considered to have a low conservation value also had relatively high economic impacts that might be mitigated by excluding those

areas from designation. A third alternative we examined and rejected would exclude all habitat areas with a low or medium conservation value. While this alternative furthers the goal of reducing economic impacts, we could not make a determination that the benefits of excluding all habitat areas with low and medium conservation value outweighed the benefits of designation. Moreover, for some habitat areas the incremental economic benefit from excluding that area is relatively small. Therefore, after considering these alternatives in the context of the section 4(b)(2) process of weighing benefits of exclusion against benefits of designation, we determined that the current approach to designation (i.e., designating some but not all areas with low or medium conservation value) provides an appropriate balance of conservation and economic mitigation and that excluding the areas identified in this rulemaking would not result in extinction of the ESU. It is estimated that small entities will save $281,687 in compliance costs due to the exclusions made in the final designation.

ESA section 4(d) regulations for Oregon Coast coho were originally proposed on December 30, 1999 (64 FR 73479). The rule adopted here is substantially the same as that proposed in 1999. At that time we published an Initial Regulatory Flexibility Act analysis, which considered four alternative approaches to protective regulations. We concluded that there were no legally viable alternative to the one we proposed in 1999 that would have less impact on small entities and still fulfill agency obligations to protect listed salmonids. We received five public comments on the Initial Regulatory Flexibility Act analysis and the economic impacts of the proposed 4(d) rule. When the rule was adopted in 2000, we completed a Final Regulatory Flexibility Act analysis, which responded to public comments, and reached the same conclusion as the initial analysis. The 2000 4(d) regulations for Oregon Coast coho were invalidated when the underlying listing was vacated in 2001. In 2004 when we proposed to again list Oregon Coast coho, we also proposed to reinstate the 4(d) regulations. We did not conduct a new Regulatory Flexibility Act analysis at that time because there were no new issues to consider.

In preparing the final ESA section 4(d) regulations adopted here, we determined it was advisable to update our Regulatory Flexibility Act analysis, to ensure that we were considering current information. Our updated analysis led us to again conclude that among the available alternative approaches, the one adopted here minimizes economic costs, disruptions, and burdens, for the reasons expressed in the 2000 analysis (attached to NMFS, 2007i) and summarized at 65 FR 42422, 42473 (July 10, 2000). The economic assessment and analysis (NMFS, 2007i) are available upon request (see **ADDRESSES**).

Paperwork Reduction Act (PRA)

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

This final rule does not contain a collection-of-information requirement for purposes of the PRA.

Regulatory Planning and Review—E.O. 12866

We prepared a Regulatory Impact Review in 2000 when the ESA section 4(d) regulations were initially adopted and concluded that among the alternative regulatory approaches, the proposed 4(d) rule would maximize net benefits and minimize costs, within the constraints of the ESA. We have reviewed that analysis and new information available since the analysis was initially prepared, including OMB Circular A–4 (2003). We have determined that none of the new information would change the earlier analysis or conclusion (NMFS, 2007i).

The critical habitat component of this notice is a significant rule and has been reviewed by the OMB. As noted above, we have prepared several reports to support the exclusion process under section 4(b)(2) of the ESA. The economic costs of the critical habitat designations are described in our economic report (NMFS, 2007c). The benefits of the designations are described in the CHART report (NMFS, 2007b) and the 4(b)(2) report (NMFS, 2007d). The CHART report uses a biologically-based ranking system for gauging the benefits of applying section 7 of the ESA to particular watersheds. Because data are not available to monetize these benefits, we have adopted a framework that implicitly evaluates the benefits and costs based on a biological metric as outlined in the section 4(b)(2) report (NMFS, 2007b). This approach is consistent with the spirit of OMB's Circular A–4 in that it attempts to assess the benefits and costs even when limitations in data may not allow quantification or monetization. By taking this approach, we seek to designate sufficient critical habitat to meet the biological goal of the ESA while imposing the least burden on society, as called for by E.O. 12866.

The annual total coextensive economic impact of the critical habitat designations is approximately $15.7 million (in contrast to a $18.4 million annual economic impact from designating *all* eligible areas considered in the 4(b)(2) process for this ESU). This amount includes impacts that are coextensive with the implementation of the jeopardy requirement of section 7 (NMFS, 2007c).

We did not estimate the economic impacts associated solely with the listing of Oregon Coast coho ESU under the ESA.

E.O. 13084—Consultation and Coordination With Indian Tribal Governments

E.O. 13084 requires that, if we issue a regulation that significantly or uniquely affects the communities of Indian tribal governments and imposes substantial direct compliance costs on those communities, we must consult with those governments or the Federal Government must provide the funds necessary to pay the direct compliance costs incurred by the tribal governments. The final listing determination and protective regulations included in this rule do not impose substantial direct compliance costs on the communities of Indian tribal governments. Accordingly, the requirements of section 3(b) of E.O. 13084 do not apply to the listing and protective regulations components of this final rule. Nonetheless, we intend to inform potentially affected tribal governments and to solicit their input and coordinate on future management actions.

The Departments of Commerce and Interior Secretarial Order ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997) provides that 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.'' Pursuant to the Secretarial Order and in response to written and oral comments provided by various tribes in Washington, Oregon, and Idaho, we met and corresponded with many of the affected tribes concerning the inclusion of Indian lands in final critical habitat designations. These

discussions resulted in significant clarifications regarding the tribes' general position to exclude their lands, as well as specific issues regarding our interpretation of Indian lands under the Secretarial Order.

As described above (see Exclusions Based on Impacts to Tribes) and in our assessment of Indian lands associated with this final rulemaking (NMFS, 2007f), we have determined that Indian lands should be excluded from the final critical habitat designations for the Oregon Coast coho ESU. The Indian lands specifically excluded from critical habitat 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. We have determined that these exclusions, together with the other exclusions described in this final rule, will not result in extinction of the species (NMFS, 2007d).

E.O. 13211

On May 18, 2001, the President issued an Executive Order on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule may be a significant regulatory action under E.O. 12866. We have determined, however, that the energy effects of the regulatory action are unlikely to exceed the energy impact thresholds identified in E.O. 13211.

The available data do not allow us to separate precisely these incremental impacts from the impacts of all conservation measures on energy production and costs. There is historical evidence, however, that the ESA section 7 jeopardy standard alone is capable of imposing all of these costs (NMFS, 2007j). While this evidence is indirect, it is sufficient to draw the conclusion that the designation of critical habitat for this one ESU does not significantly affect energy supply, distribution, or use.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act, we make the following findings:

(a) This final rule listing Oregon Coast coho and designating critical habitat will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon state, local, tribal governments, or the private sector and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding'' and the state, local, or tribal governments ''lack authority'' to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement). ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.''

ESA listing and the designation of critical habitat do not impose a legally binding duty on non-Federal government entities or private parties. Under the ESA, the only regulatory effect is that Federal agencies must ensure that their actions do not jeopardize the continued existence of the species or destroy or adversely modify critical habitat under section 7. While non-Federal entities who receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the listing or designation of critical habitat, the legally binding duty to avoid jeopardy and the destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would the listing or critical habitat shift the costs of the large entitlement programs listed above to state governments.

(b) The ESA section 4(d) regulations prohibit any person from taking a listed member of the Oregon Coast coho ESU, except under certain circumstances. This prohibition applies to state and local government actions as well as private individuals. The 4(d) regulations prohibit certain activities, but do not impose an ''enforceable duty'' with associated costs to implement. As such, the 4(d) regulations are not considered an unfunded mandate for the purposes of the Unfunded Mandates Reform Act.

Takings

The final threatened listing determination is a non-discretionary action and therefore is not subject to the requirements of E.O. 12630. In accordance with E.O. 12630, this final rule does not have significant takings implications. Under E.O. 12630, ''Actions undertaken by governmental officials that result in a physical invasion or occupancy of private property, and regulations imposed on private property that *substantially affect its value or use,* may constitute a taking of property'' [emphasis added]. Neither the critical habitat designation nor 4(d) regulations can be expected to substantially affect the value or use of property. A takings implication assessment is not required.

The designation of critical habitat confers the ESA section 7 protection against ''the destruction or adverse modification of [critical] habitat.'' The designation of critical habitat in this rule affects only Federal agency actions, and will not increase or decrease the current restrictions on private property concerning take of salmon. While it is possible that real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, our experience is that such impacts do not occur or are short lived (NMFS, 2007d). Owners of areas that are included in the designated critical habitat will continue to have the opportunity to use their property in ways consistent with the survival of listed salmon. Therefore, the designation of critical habitat does not substantially affect the value or use of private property, and does not constitute a taking.

The adoption of ESA section 4(d) regulations includes a prohibition against ''take'' of a listed species (the definition of ''take'' is to ''harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.''). The take prohibition applies to any person subject to the jurisdiction of the United States, and may be perceived as affecting the value or use of property. However, the 4(d) regulations do not substantially affect the value or use of property for the following reasons. First, private property is already subject to state and local land-use regulations. Second, any action on private property authorized, funded, or carried out by a Federal agency that may take listed species is already subject to the section 7 ''no jeopardy'' protection by virtue of the listing determination. Third, our experience with Pacific salmonid 4(d) regulation since 1997 is that any declines in property value are either in perception only or short lived. Land owners quickly realize that the 4(d) regulations do not impose restrictions in addition to pre-existing land-use laws and the listing itself, or they conduct actions on their property in ways consistent with the survival of listed salmon by availing themselves to the exceptions provided under the 4(d) limits.

E.O. 13132—Federalism

E.O. 13132 requires agencies to take into account any Federalism impacts of regulations under development. It includes specific consultation directives for situations where a regulation will preempt state law, or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of those circumstances is applicable to this final rule. In fact, the adopted ESA section 4(d) regulations provide mechanisms by which NMFS, in the form of limits to take prohibitions, may defer to state and local governments where they provide adequate protections for threatened salmonids.

With respect to the designation of critical habitat, this final rule does not have significant federalism effects. In keeping with Department of Commerce policies, we requested information from, and coordinated development of, this critical habitat designation with appropriate state resource agencies in the State of Oregon. The designation may have some benefit to the State and local resource agencies in that the areas essential to the conservation of the species are more clearly defined, and the PCEs of the habitat essential to the conservation of the species are specifically identified. While making these clarifications does not alter where and what federally sponsored activities may occur, it may assist local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

Civil Justice Reform

One commenter asserted that we failed to properly conduct and provide a Civil Justice Reform analysis pursuant to E.O. 12988. The Department of Commerce has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the E.O. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the PCEs within the designated areas to assist the public in understanding the habitat needs of the Oregon Coast coho ESU.

References

A list of the referenced materials is available on the Internet at *http://www.nwr.noaa.gov*, or upon request (see **ADDRESSES** section above).

List of Subjects in 50 CFR Parts 223 and 226

Endangered and threatened species, Exports, Reporting and recordkeeping requirements.

Dated: February 1, 2008.

Samuel Rauch, III,

Deputy Assistant Administrator for Regulations, National Marine Fisheries Service.

■ For the reasons set out in the preamble, 50 CFR parts 223 and 226 are amended as follows:

PART 223—THREATENED MARINE AND ANADROMOUS SPECIES

■ 1. The authority citation for part 223 continues to read as follows:

Authority: 16 U.S.C. 1531–1543.

■ 2. In § 223.102, the table heading is revised and paragraph (c)(24) of the table is added to read as follows:

§ 223.102 Enumeration of threatened marine and anadromous species.

* * * * *

Species [1]		Where listed	Citation(s) for listing determination(s)	Citation(s) for critical habitat designation(s)
Common name	Scientific name			
*	*	* * *	*	*
(c) * * *				
(24) Oregon Coast Coho.	*Oncorhynchus kisutch*	U.S.A., OR, all naturally spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco, including the Cow Creek (ODFW stock #37) coho hatchery program.	73 FR [*Insert FR page number where the document begins*]; 2/11/08.	73 FR [*Insert FR page number where the document begins*]; 2/11/08.
*	*	* * *	*	*

■ 3. In § 223.203, paragraph (b)(2) is revised to read as follows:

§ 223.203 Anadromous fish.

* * * * *

(b) * * *

(2) The prohibitions of paragraph (a) of this section relating to Oregon Coast coho salmon, listed in § 223.102(a)(24), do not apply to activities specified in an application for a permit for scientific purposes or to enhance the conservation or survival of the species, provided that the application has been received by the Assistant Administrator for Fisheries, NOAA (AA), no later than June 10, 2008. The prohibitions of this section apply to these activities upon the Assistant Administrator's rejection of the application as insufficient, upon

issuance or denial of a permit, or March 31, 2009, whichever occurs earliest.

* * * * *

PART 226—DESIGNATED CRITICAL HABITAT

■ 4. The authority citation of part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

■ 5. In § 226.212, the section's heading and introductory text are revised and paragraphs (a)(13) and (u) are added to read as follows:

§ 226.212 Critical habitat for 13 Evolutionarily Significant Units (ESUs) of salmon and steelhead (Oncorhynchus spp.) in Washington, Oregon and Idaho.

Critical habitat is designated in the following states and counties for the following ESUs as described in paragraph (a) of this section, and as further described in paragraphs (b) through (g) of this section. The textual descriptions of critical habitat for each ESU are included in paragraphs (i) through (u) of this section, and these descriptions are the definitive source for determining the critical habitat boundaries. General location maps are provided at the end of each ESU description (paragraphs (i) through (u) of this section) and are provided for general guidance purposes only, and not as a definitive source for determining critical habitat boundaries.

(a) * * *

ESU	State—Counties
* * * * * * *	
(13) Oregon Coast coho salmon	*OR*—Benton, Clatsop, Columbia, Coos, Curry, Douglas, Lane, Oregon Lincoln, Polk, Tillamook, Washington, and Yamhill.

* * * * *

(u) Oregon Coast Coho Salmon (*Oncorhynchus kisutch*). Critical habitat is designated to include the areas defined in the following subbasins:

(1) Necanicum Subbasin 17100201—*Necanicum River Watershed 1710020101.* Outlet(s) = Arch Cape Creek (Lat 45.8035, Long −123.9656); Asbury Creek (45.815, −123.9624); Ecola Creek (45.8959, −123.9649); Necanicum River (46.0113, −123.9264); Short Sand Creek (45.7595, −123.9641) upstream to endpoint(s) in: Arch Cape Creek (45.8044, −123.9404); Asbury Creek (45.8150, −123.9584); Beerman Creek (45.9557, −123.8749); Bergsvik Creek (45.8704, −123.7650); Brandis Creek (45.8894, −123.8529); Charlie Creek (45.9164, −123.7606); Circle Creek (45.9248, −123.9436); Circle Creek Trib A (45.9335, −123.9457); North Fork Ecola Creek (45.8705, −123.9070); West Fork Ecola Creek (45.8565, −123.9424); Grindy Creek (45.9179, −123.7390); Hawley Creek (45.9259, −123.8864); Joe Creek (45.8747, −123.7503); Johnson Creek (45.8885, −123.8816); Klootchie Creek (45.9450, −123.8413); Klootchie Creek Trib A (45.9250, −123.8447); Lindsley Creek (45.9198, −123.8339); Little Humbug Creek (45.9235, −123.7653); Little Joe Creek (45.8781, −123.7852); Little Muddy Creek (45.9551, −123.9559); Mail Creek (45.8887, −123.8655); Meyer Creek (45.9279, −123.9135); Mill Creek (46.0245, −123.8905); Mill Creek Trib 1 (46.0142, −123.8967); Neacoxie Creek (46.0245, −123.9157); Neawanna Creek (45.9810, −123.8809); Necanicum River (45.9197, −123.7106); North Fork Necanicum River (45.9308, −123.7986); North Fork Necanicum River Trib A (45.9398, −123.8109); South Fork Necanicum River (45.8760, −123.8122); Shangrila Creek (45.9706, −123.8778); Short Sand Creek (45.7763, −123.9406); Thompson Creek (46.0108, −123.8951); Tolovana Creek (45.8581, −123.9370); Unnamed (45.8648, −123.9371); Unnamed (45.8821, −123.9318); Unnamed (45.8881, −123.7436); Unnamed (45.8883, −123.9366); Unnamed (45.8906, −123.7460); Unnamed (45.8912, −123.9433); Unnamed (45.8950, −123.8715); Unnamed (45.9026, −123.9540); Unnamed (45.9046, −123.9578); Unnamed (45.9050, −123.9585); Unnamed (45.9143, −123.8656); Unnamed (45.9161, −123.9000); Unnamed (45.9210, −123.8668); Unnamed (45.9273, −123.8499); Unnamed (45.9292, −123.8900); Unnamed (45.9443, −123.9038); Unnamed (45.9850, −123.8999); Unnamed (46.0018, −123.8998); Volmer Creek (45.9049, −123.9139); Warner Creek (45.8887, −123.7801); Williamson Creek (45.9522, −123.9060).

(2) Nehalem Subbasin 17100202—(i) *Upper Nehalem River Watershed 1710020201.* Outlet(s) = Nehalem River (Lat 45.9019, Long −123.1442) upstream to endpoint(s) in: Bear Creek (45.7781, −123.4252); Bear Creek (45.8556, −123.2205); Beaver Creek (45.7624, −123.2073); Beaver Creek Trib A (45.8071, −123.2143); Beaver Creek Trib B (45.7711, −123.2318); Carlson Creek (45.7173, −123.3425); Castor Creek (45.7103, −123.2698); Cedar Creek (45.8528, −123.2928); Clear Creek, Lower North Fork (45.8229, −123.3111); Clear Creek (45.8239, −123.3531); Coal Creek Trib B (45.8149, −123.1174); Coal Creek (45.7978, −123.1293); Coon Creek (45.8211, −123.1446); Dell Creek (45.7919, −123.1559); Derby Creek (45.7225, −123.3857); Dog Creek (45.8957, −123.0741); Elk Creek (45.8256, −123.1290); Fall Creek (45.8626, −123.3247); Ginger Creek (45.8520, −123.3511); Ivy Creek (45.8938, −123.3160); Jim George Creek (45.8009, −123.1041); Kenusky Creek (45.8859, −123.0422); Kist Creek (45.7826, −123.2507); Lousignont Creek (45.7424, −123.3722); Lousignont Creek, North Fork (45.7463, −123.3576); Martin Creek (45.8474, −123.4025); Maynard Creek (45.8556, −123.3038); Military Creek (45.8233, −123.4812); Nehalem River (45.7269, −123.4159); Nehalem River, East Fork (45.8324, −123.0502); Olson Creek (45.8129, −123.3853); Pebble Creek (45.7661, −123.1357); Pebble Creek, West Fork (45.7664, −123.1899); Robinson Creek (45.7363, −123.2512); Rock Creek (45.8135, −123.5201); Rock Creek, North Fork (45.8616, −123.4560); Rock Creek, South Fork (45.7598, −123.4249); Rock Creek Trib C (45.7957, −123.4882); South Fork Rock Creek Trib A (45.7753, −123.4586); South Fork Nehalem River (45.7073, −123.4017); Selder Creek (45.8975, −123.3806); South Fork Clear Creek (45.8141, −123.3484); South Prong Clear Creek (45.7832, −123.2975); Step Creek (45.6824, −123.3348); Swamp Creek (45.8217, −123.2004); Unnamed (45.7270, −123.3419); Unnamed (45.8095, −123.0908); Unnamed (45.7558, −123.2630); Unnamed (45.7938, −123.3847); Unnamed (45.7943, −123.4059); Unnamed (45.8197, −123.0679); Unnamed (45.8477, −123.0734); Unnamed (45.8817, −123.1266); Unnamed (45.8890, −123.3817); Unnamed (45.9019, −123.1346); Weed Creek (45.8707, −123.4049); Wolf Creek,

South Fork (45.7989, −123.4028); Wolf Creek (45.7768, −123.3556).

(ii) *Middle Nehalem River Watershed 1710020202.* Outlet(s) = Nehalem River (Lat 45.9838, Long −123.4214) upstream to endpoint(s) in: Adams Creek (46.0263, −123.2869); Archibald Creek (45.9218, −123.0829); Beaver Creek (46.0554, −123.2985); Boxler Creek (46.0486, −123.3521); Calvin Creek (45.9514, −123.2976); Cedar Creek (45.9752, −123.1143); Cook Creek (45.9212, −123.1087); Cow Creek (46.0500, −123.4326); Crooked Creek (45.9043, −123.2689); Deep Creek (45.9461, −123.3719); Deep Creek Trib A (45.9127, −123.3794); Deep Creek Trib B (45.9314, −123.3809); Deer Creek (45.9033, −123.3142); Eastman Creek (46.0100, −123.2262); Fall Creek (45.9438, −123.2012); Fishhawk Creek (46.0596, −123.3857); Fishhawk Creek, North Fork (46.0907, −123.3675); Fishhawk Creek, Trib C (46.0808, −123.3692); Ford Creek (46.0570, −123.2872); Gus Creek (45.9828, −123.1453); Johnson Creek (46.0021, −123.2133); Lane Creek (45.9448, −123.3253); Little Deer Creek (45.9378, −123.2780); Lousignont Creek (46.0342, −123.4186); Lundgren Creek (46.0240, −123.2092); McCoon Creek (46.0665, −123.3043); Messing Creek (46.0339, −123.2260); Nehalem River (45.9019, −123.1442); Northrup Creek (46.0672, −123.4377); Oak Ranch Creek (45.9085, −123.0834); Sager Creek (45.9388, −123.4020); Unnamed (45.9039, −123.2044); Unnamed (45.9067, −123.0595); Unnamed (45.9488, −123.2220); Unnamed (45.9629, −123.3845); Unnamed (45.9999, −123.1732); Unnamed (46.0088, −123.4508); Unnamed (46.0208, −123.4588); Unnamed (46.0236, −123.2381); Unnamed (46.0308, −123.3135); Unnamed (46.0325, −123.4650); Unnamed (46.0390, −123.3648); Unnamed (46.0776, −123.3274); Unnamed (46.0792, −123.3409); Unnamed (46.0345, −123.2956); Warner Creek (46.0312, −123.3817); Wrong Way Creek (46.0789, −123.3142).

(iii) *Lower Nehalem River Watershed 1710020203.* Outlet(s) = Nehalem River (Lat 45.7507, Long −123.6530) upstream to endpoint(s) in: Alder Creek (45.9069, −123.5907); Beaver Creek (45.8949, −123.6764); Big Creek (45.8655, −123.6476); Bull Heifer Creek (45.9908, −123.5322); Buster Creek (45.9306, −123.4165); Cedar Creek (45.8931, −123.6029); Cow Creek (45.8587, −123.5206); Crawford Creek (45.9699, −123.4725); Cronin Creek, Middle Fork (45.7719, −123.5747); Cronin Creek, North Fork (45.7795, −123.6064); Cronin Creek, South Fork (45.7456, −123.5596); Destruction Creek (45.8750, −123.6571); East Humbug Creek (45.9454, −123.6358); Fishhawk Creek (45.9666, −123.5895); Fishhawk Creek (46.0224, −123.5374); George Creek (45.8461, −123.6226); George Creek (45.9118, −123.5766); Gilmore Creek (45.9609, −123.5372); Hamilton Creek (46.0034, −123.5881); Klines Creek (45.8703, −123.4908); Larsen Creek (45.8757, −123.5847); Little Fishhawk Creek (45.9256, −123.5501); Little Rock Creek (45.8886, −123.4558); McClure Creek (45.8560, −123.6227); Moores Creek (45.8801, −123.5178); Nehalem River (45.9838, −123.4214); Quartz Creek (45.8414, −123.5184); Spruce Run Creek (45.8103, −123.6028); Squaw Creek (45.9814, −123.4529); Stanley Creek (45.8861, −123.4352); Strum Creek (45.9321, −123.4275); Trailover Creek (46.0129, −123.4976); Unnamed (45.8083, −123.6280); Unnamed (45.8682, −123.6168); Unnamed (45.9078, −123.6630); Unnamed (45.9207, −123.4534); Unnamed (45.9405, −123.6338); Unnamed (45.9725, −123.5544); West Humbug Creek (45.9402, −123.6726); Walker Creek (45.9266, −123.4423); Walker Creek (46.0391, −123.5142); West Brook (45.9757, −123.4638).

(iv) *Salmonberry River Watershed 1710020204.* Outlet(s) = Salmonberry River (Lat 45.7507, Long −123.6530) upstream to endpoint(s) in: Pennoyer Creek (45.7190, −123.4366); Salmonberry River (45.7248, −123.4436); Salmonberry River, North Fork (45.7181, −123.5204); Wolf Creek (45.6956, −123.4485).

(v) *North Fork of Nehalem River Watershed 1710020205.* Outlet(s) = Nehalem River, North Fork (Lat 45.7317, Long −123.8765) upstream to endpoint(s) in: Acey Creek (45.7823, −123.8292); Anderson Creek (45.7643, −123.9073); Big Rackheap Creek (45.7546, −123.8145); Boykin Creek (45.8030, −123.8595); Buchanan Creek (45.8270, −123.7901); Coal Creek (45.7897, −123.8676); Coal Creek, West Fork (45.7753, −123.8871); Cougar Creek (45.8064, −123.8090); Fall Creek (45.7842, −123.8547); Fall Creek (45.8226, −123.7054); Gods Valley Creek (45.7689, −123.7793); Grassy Lake Creek (45.7988, −123.8193); Gravel Creek (45.7361, −123.8126); Henderson Creek (45.7932, −123.8548); Jack Horner Creek (45.8531, −123.7837); Lost Creek (45.7909, −123.7195); Nehalem River, Little North Fork (45.9101, −123.6972); Nehalem River, North Fork (45.8623, −123.7463); Nehalem River, North Fork, Trib R (45.8287, −123.6625); Nehalem River, North Fork, Trib T (45.8492, −123.6796); Rackheap Creek (45.7677, −123.8008); Sally Creek (45.8294, −123.7468); Soapstone Creek (45.8498, −123.7469); Soapstone Creek, Trib A (45.8591, −123.7616); Sweethome Creek (45.7699, −123.6616); Unnamed (45.7457, −123.8490); Unnamed (45.7716, −123.7691); Unnamed (45.7730, −123.7789); Unnamed (45.7736, −123.7607); Unnamed (45.7738, −123.7534); Unnamed (45.7780, −123.7434); Unnamed (45.7784, −123.7742); Unnamed (45.7794, −123.7315); Unnamed (45.7824, −123.7396); Unnamed (45.7833, −123.7680); Unnamed (45.7841, −123.7299); Unnamed (45.7858, −123.7660); Unnamed (45.7898, −123.7424); Unnamed (45.7946, −123.7365); Unnamed (45.7966, −123.7953); Unnamed (45.8008, −123.7349); Unnamed (45.8193, −123.7436); Unnamed (45.8322, −123.7789); Unnamed (45.8359, −123.7766); Unnamed (45.8569, −123.7235); Unnamed (45.8629, −123.7347); Unnamed (45.8662, −123.7444); Unnamed (45.8962, −123.7189).

(vi) *Lower Nehalem River/Cook Creek Watershed 1710020206.* Outlet(s) = Nehalem River (Lat 45.6577, Long −123.9355) upstream to endpoint(s) in: Alder Creek (45.7286, −123.9091); Anderson Creek (45.6711, −123.7470); Bastard Creek (45.7667, −123.6943); Bob's Creek (45.7444, −123.9038); Cook Creek (45.6939, −123.6146); Cook Creek, East Fork (45.6705, −123.6440); Daniels Creek (45.6716, −123.8606); Dry Creek (45.6449, −123.8507); Dry Creek (45.6985, −123.7422); East Foley Creek (45.6621, −123.8068); Fall Creek (45.7489, −123.7778); Foley Creek (45.6436, −123.8933); Gallagher Slough (45.7140, −123.8657); Hanson Creek (45.6611, −123.7179); Harliss Creek (45.6851, −123.7249); Helloff Creek (45.7545, −123.7603); Hoevett Creek (45.6894, −123.6276); Jetty Creek (45.6615, −123.9103); Lost Creek (45.7216, −123.7164); Neahkahnie Creek (45.7197, −123.9247); Nehalem River (45.7507, −123.6530); Peterson Creek (45.6975, −123.8098); Piatt Canyon (45.6844, −123.6983); Roy Creek (45.7174, −123.8038); Snark Creek (45.7559, −123.6713); Unnamed (45.6336, −123.8549); Unnamed (45.6454, −123.8663); Unnamed (45.6483, −123.8605); Unnamed (45.6814, −123.8786); Unnamed (45.7231, −123.9016).

(3) Wilson/Trask/Nestucca Subbasin 17100203—(i) *Little Nestucca River Watershed 1710020301.* Outlet(s) = Little Nestucca River (Lat 45.1827, Long −123.9543) upstream to endpoint(s) in: Austin Creek (45.1080, −123.8748);

Austin Creek, West Fork (45.1074, −123.8894); Baxter Creek (45.1149, −123.7705); Bear Creek (45.1310, −123.8500); Bowers Creek (45.1393, −123.9198); Cedar Creek (45.0971, −123.8094); Fall Creek (45.1474, −123.8767); Hiack Creek (45.0759, −123.8042); Kautz Creek (45.0776, −123.8317); Kellow Creek (45.1271, −123.9072); Little Nestucca River (45.0730, −123.7825); Little Nestucca River, South Fork (45.0754, −123.8393); Louie Creek (45.1277, −123.7869); McKnight Creek (45.1124, −123.8363); Small Creek (45.1151, −123.8227); Sourgrass Creek (45.0917, −123.7623); Sourgrass Creek, Trib A (45.1109, −123.7664); Squaw Creek (45.1169, −123.8938); Stillwell Creek (45.0919, −123.8141); Unnamed (45.1169, −123.7974).

(ii) *Nestucca River Watershed 1710020302.* Outlet(s) = Nestucca Bay (Lat 45.1607, Long −123.9678) upstream to endpoint(s) in: Alder Creek (45.1436, −123.7998); Alder Creek (45.2436, −123.7364); Bays Creek (45.3197, −123.7240); Bear Creek (45.3188, −123.6022); Bear Creek (45.3345, −123.7898); Beulah Creek (45.2074, −123.6747); Bible Creek (45.2331, −123.5868); Boulder Creek (45.2530, −123.7525); Buck Creek (45.1455, −123.7734); Cedar Creek (45.3288, −123.4531); Clarence Creek (45.2649, −123.6395); Clear Creek (45.1725, −123.8660); Crazy Creek (45.1636, −123.7595); Dahl Fork (45.2306, −123.7076); East Beaver Creek (45.3579, −123.6877); East Creek (45.3134, −123.6348); Elk Creek (45.3134, −123.5645); Elk Creek, Trib A (45.2926, −123.5381); Elk Creek, Trib B (45.2981, −123.5471); Fan Creek (45.2975, −123.4994); Farmer Creek (45.2593, −123.9074); Foland Creek (45.2508, −123.7890); Foland Creek, West Fork (45.2519, −123.8025); George Creek (45.2329, −123.8291); Ginger Creek (45.3283, −123.4680); Hartney Creek (45.2192, −123.8632); Horn Creek (45.2556, −123.9212); Lawrence Creek (45.1861, −123.7852); Limestone Creek (45.2472, −123.7169); Mina Creek (45.2444, −123.6197); Moon Creek (45.3293, −123.6762); North Beaver Creek (45.3497, −123.8961); Nestucca River (45.3093, −123.4077); Niagara Creek (45.1898, −123.6637); Pheasant Creek (45.2121, −123.6366); Pollard Creek (45.1951, −123.7958); Powder Creek (45.2305, −123.6974); Saling Creek (45.2691, −123.8474); Sanders Creek (45.2254, −123.8959); Slick Rock Creek (45.2683, −123.6106); Swab Creek (45.2889, −123.7656); Testament Creek (45.2513, −123.5488); Three Rivers (45.1785, −123.7557); Tiger Creek (45.3405, −123.8029); Tiger Creek, Trib A (45.3346, −123.8547); Tony Creek (45.2575, −123.7735); Turpy Creek (45.2537, −123.7620); Unnamed (45.1924, −123.8202); Unnamed (45.2290, −123.9398); Unnamed (45.3018, −123.4636); Unnamed (45.3102, −123.6628); Unnamed (45.3148, −123.6616); Unnamed (45.3158, −123.8679); Unnamed (45.3292, −123.8872); Walker Creek (45.2914, −123.4207); West Beaver Creek (45.3109, −123.8840); West Creek (45.2899, −123.8514); Wildcat Creek (45.3164, −123.8187); Wolfe Creek (45.3113, −123.7658); Woods Creek (45.1691, −123.8070).

(iii) *Tillamook River Watershed 1710020303.* Outlet(s) = Tillamook River (Lat 45.4682, Long −123.8802) upstream to endpoint(s) in: Bear Creek (45.4213, −123.8885); Beaver Creek (45.4032, −123.8861); Bewley Creek (45.3637, −123.8965); Esther Creek (45.4464, −123.9017); Fawcett Creek (45.3824, −123.7210); Joe Creek (45.3754, −123.8257); Killam Creek (45.4087, −123.7276); Mills Creek (45.3461, −123.7915); Munson Creek (45.3626, −123.7681); Simmons Creek (45.3605, −123.7364); Sutton Creek (45.4049, −123.8568); Tillamook River (45.3595, −123.9115); Tomlinson Creek (45.4587, −123.8868); Unnamed (45.3660, −123.8313); Unnamed (45.3602, −123.8466); Unnamed (45.3654, −123.9050); Unnamed (45.3987, −123.7105); Unnamed (45.4083, −123.8160); Unnamed (45.4478, −123.8670); Unnamed (45.3950, −123.7348).

(iv) *Trask River Watershed 1710020304.* Outlet(s) = Trask River (Lat 45.4682, Long −123.8802) upstream to endpoint(s) in: Bales Creek (45.3712, −123.5786); Bark Shanty Creek (45.4232, −123.5550); Bear Creek (45.4192, −123.7408); Bill Creek (45.3713, −123.6386); Blue Bus Creek (45.4148, −123.5949); Boundry Creek (45.3493, −123.5470); Clear Creek #1 (45.4638, −123.5571); Clear Creek #2 (45.5025, −123.4683); Cruiser Creek (45.4201, −123.4753); Dougherty Slough (45.4684, −123.7888); East Fork of South Fork Trask River (45.3563, −123.4752); Edwards Creek (45.3832, −123.6676); Elkhorn Creek, Trib C (45.4080, −123.4440); Elkhorn Creek (45.3928, −123.4709); Gold Creek (45.4326, −123.7218); Green Creek (45.4510, −123.7361); Hatchery Creek (45.4485, −123.6623); Headquarters Camp Creek (45.3317, −123.5072); Hoquarten Slough (45.4597, −123.8480); Joyce Creek (45.3881, −123.6386); Michael Creek (45.4799, −123.5119); Mill Creek (45.4100, −123.7450); Miller Creek (45.3582, −123.5666); Pigeon Creek (45.3910, −123.5656); Rawe Creek (45.4395, −123.6351); Rock Creek (45.3515, −123.5074); Samson Creek (45.4662, −123.6439); Scotch Creek (45.4015, −123.5873); Steampot Creek (45.3875, −123.5425); Stretch Creek (45.3483, −123.5382); Summit Creek (45.3481, −123.6054); Summit Creek, South Fork (45.3473, −123.6145); Trask River, North Fork, Middle Fork (45.4472, −123.3945); Trask River, North Fork, North Fork (45.5275, −123.4177); Trask River, South Fork (45.3538, −123.6445); Trib A (45.3766, −123.5191); Trib B (45.3776, −123.4988); Unnamed (45.3639, −123.6054); Unnamed (45.4105, −123.7741); Unnamed (45.4201, −123.6320); Unnamed (45.4220, −123.7654).

(v) *Wilson River Watershed 1710020305.* Outlet(s) = Wilson River (Lat 45.4816, Long −123.8708) upstream to endpoint(s) in: Beaver Creek (45.4894, −123.7933); Ben Smith Creek (45.5772, −123.5072); Cedar Creek (45.5869, −123.6228); Cedar Creek, North Fork (45.6066, −123.6151); Deo Creek (45.6000, −123.3716); Drift Creek (45.6466, −123.3944); Elk Creek (45.6550, −123.4620); Elk Creek, West Fork (45.6208, −123.4717); Elliott Creek (45.5997, −123.3925); Fall Creek (45.4936, −123.5616); Fox Creek (45.5102, −123.5869); Hatchery Creek (45.4835, −123.7074); Hughey Creek (45.4540, −123.7526); Idiot Creek (45.6252, −123.4296); Jones Creek (45.6028, −123.5702); Jordan Creek (45.5610, −123.4557); Jordan Creek, South Fork (45.5099, −123.5279); Kansas Creek (45.4861, −123.6434); Morris Creek (45.6457, −123.5409); Tuffy Creek (45.5787, −123.4702); Unnamed (45.4809, −123.8362); Unnamed (45.5758, −123.5226); Unnamed (45.5942, −123.4259); Unnamed (45.6002, −123.5939); Unnamed (45.6151, −123.4385); White Creek (45.5181, −123.7223); Wilson River, Devil's Lake Fork (45.6008, −123.3301); Wilson River, North Fork (45.6679, −123.5138); Wilson River, North Fork, Little (45.5283, −123.6771); Wilson River, North Fork, West Fork (45.6330, −123.5879); Wilson River, North Fork, West Fork, North Fork (45.6495, −123.5779); Wilson River, South Fork (45.5567, −123.3965); Wolf Creek (45.5683, −123.6129).

(vi) *Kilchis River Watershed 1710020306.* Outlet(s) = Kilchis River (Lat 45.4927, Long −123.8615) upstream to endpoint(s) in: Clear Creek (45.5000, −123.7647); Coal Creek (45.5004, −123.8085); Company Creek (45.5892, −123.7370); French Creek (45.6318, −123.6926); Kilchis River,

Little South Fork (45.5668, −123.7178); Kilchis River, North Fork (45.6044, −123.6504); Kilchis River, South Fork (45.5875, −123.6944); Mapes Creek (45.5229, −123.8382); Murphy Creek (45.5320, −123.8341); Myrtle Creek (45.5296, −123.8156); Sam Downs Creek (45.5533, −123.7144); Schroeder Creek (45.6469, −123.7064); Unnamed (45.5625, −123.7593).

(vii) *Miami River Watershed 1710020307.* Outlet(s) = Miami River (Lat 45.5597, Long −123.8904) upstream to endpoint(s) in: Diamond Creek (45.6158, −123.8184); Hobson Creek (45.5738, −123.8970); Illingsworth Creek (45.5547, −123.8693); Miami River (45.6362, −123.7533); Miami River, Trib S (45.6182, −123.8004); Miami River, Trib T (45.6546, −123.7463); Minich Creek (45.5869, −123.8936); Moss Creek (45.5628, −123.8319); Peterson Creek (45.6123, −123.8996); Prouty Creek (45.6304, −123.8435); Stuart Creek (45.6042, −123.8442); Unnamed (45.6317, −123.7906); Unnamed (45.6341, −123.7900); Waldron Creek (45.5856, −123.8483).

(viii) *Tillamook Bay Watershed 1710020308.* Outlet(s) = Tillamook Bay (Lat 45.5600, Long −123.9366) upstream to endpoint(s) in: Douthy Creek (45.5277, −123.8570); Electric Creek (45.5579, −123.8925); Hall Slough (45.4736, −123.8637); Jacoby Creek (45.5297, −123.8665); Kilchis River (45.4927, −123.8615); Larson Creek (45.5366, −123.8849); Miami River (45.5597, −123.8904); Patterson Creek (45.5359, −123.8732); Tillamook Bay (45.4682, −123.8802); Vaughn Creek (45.5170, −123.8516); Wilson River (45.4816, −123.8708).

(ix) *Spring Creek/Sand Lake/Neskowin Creek Frontal Watershed 1710020309.* Outlet(s) = Crescent Lake (45.6360, −123.9405); Neskowin Creek (45.1001, −123.9859); Netarts Bay (45.4339, −123.9512); Rover Creek (45.3290, −123.9670); Sand Creek (45.2748, −123.9589); Watesco Creek (45.5892, −123.9477) upstream to endpoint(s) in: Andy Creek (45.2905, −123.8744); Butte Creek (45.1159, −123.9360); Crescent Lake (45.6320, −123.9376); Davis Creek (45.3220, −123.9254); Fall Creek (45.0669, −123.9679); Hawk Creek (45.1104, −123.9436); Jackson Creek (45.3568, −123.9611); Jewel Creek (45.2865, −123.8905); Jim Creek (45.0896, −123.9224); Lewis Creek (45.0835, −123.8979); Meadow Creek (45.0823, −123.9824); Neskowin Creek (45.0574, −123.8812); Prospect Creek (45.0858, −123.9321); Reneke Creek (45.2594, −123.9434); Rover Creek (45.3284, −123.9438); Sand Creek (45.3448, −123.9156); Sloan Creek (45.0718, −123.8998); Watesco Creek (45.5909, −123.9353); Whiskey Creek (45.3839, −123.9193).

(4) Siletz/Yaquina Subbasin 17100204–(i) *Upper Yaquina River Watershed 1710020401.* Outlet(s) = Yaquina River (Lat 44.6219, Long −123.8741) upstream to endpoint(s) in: Bales Creek (44.6893, −123.7503); Bales Creek, East Fork (44.6927, −123.7363); Bales Creek, East Fork, Trib A (44.6827, −123.7257); Bales Creek (44.6610, −123.8749); Bones Creek (44.6647, −123.6762); Bryant Creek (44.6746, −123.7139); Buckhorn Creek (44.6676, −123.6677); Buttermilk Creek (44.6338, −123.6827); Buttermilk Creek, Trib A (44.6518, −123.7173); Carlisle Creek (44.6451, −123.8847); Cline Creek (44.6084, −123.6844); Cook Creek (44.6909, −123.8583); Crystal Creek (44.6500, −123.8132); Davis Creek (44.6500, −123.6587); Eddy Creek (44.6388, −123.7951); Felton Creek (44.6626, −123.6502); Haxel Creek (44.6781, −123.8046); Hayes Creek (44.6749, −123.7749); Humphrey Creek (44.6697, −123.6329); Klamath Creek (44.6927, −123.8431); Little Elk Creek (44.6234, −123.6628); Little Elk Creek,Trib A (44.6196, −123.7583); Little Yaquina River (44.6822, −123.6123); Lytle Creek (44.6440, −123.5979); Miller Creek (44.6055, −123.7030); Oglesby Creek (44.6421, −123.7271); Oglesby Creek, Trib A (44.6368, −123.7100); Peterson Creek (44.6559, −123.7868); Randall Creek (44.6721, −123.6570); Salmon Creek (44.6087, −123.7379); Simpson Creek (44.6775, −123.8780); Sloop Creek (44.6654, −123.8595); Spilde Creek (44.6636, −123.5856); Stony Creek (44.6753, −123.7020); Thornton Creek (44.6923, −123.8208); Trapp Creek (44.6455, −123.8307); Twentythree Creek (44.6887, −123.8751); Unnamed (44.6074, −123.6738); Unnamed (44.6076, −123.7067); Unnamed (44.6077, −123.6633); Unnamed (44.6123, −123.6646); Unnamed (44.6188, −123.7237); Unnamed (44.6202, −123.7201); Unnamed (44.6367, −123.7444); Unnamed (44.6415, −123.6237); Unnamed (44.6472, −123.7793); Unnamed (44.6493, −123.6789); Unnamed (44.6707, −123.7908); Unnamed (44.6715, −123.6907); Unnamed (44.6881, −123.6089); Unnamed (44.6908, −123.7298); Wakefield Creek (44.6336, −123.6963); Yaquina River (44.6894, −123.5907); Young Creek (44.6372, −123.6027).

(ii) *Big Elk Creek Watershed 1710020402.* Outlet(s) = Elk Creek (Lat 44.6219, Long −123.8741) upstream to endpoint(s) in: Adams Creek (44.5206, −123.6349); Baker Creek (44.5230, −123.6346); Bear Creek (44.5966, −123.8299); Beaver Creek (44.6040, −123.7999); Beaverdam Creek (44.5083, −123.6337); Bevens Creek (44.5635, −123.7371); Bull Creek (44.5408, −123.8162); Bull Creek (44.5431, −123.8142); Bull Creek, Trib A (44.5359, −123.8276); Cougar Creek (44.5070, −123.6482); Cougar Creek (44.5861, −123.7563); Deer Creek (44.6020, −123.7667); Devils Well Creek (44.6324, −123.8438); Dixon Creek (44.6041, −123.8659); Elk Creek (44.5075, −123.6022); Feagles Creek (44.4880, −123.7180); Feagles Creek, Trib B (44.5079, −123.6909); Feagles Creek, West Fork (44.5083, −123.7117); Grant Creek (44.5010, −123.7363); Harve Creek (44.5725, −123.8025); Jackass Creek (44.5443, −123.7790); Johnson Creek (44.5466, −123.6336); Lake Creek (44.5587, −123.6826); Leverage Creek (44.5536, −123.6343); Little Creek (44.5548, −123.6980); Little Wolf Creek (44.5590, −123.7165); Peterson Creek (44.5576, −123.6450); Rail Creek (44.5135, −123.6639); Spout Creek (44.5824, −123.6561); Sugarbowl Creek (44.5301, −123.5995); Unnamed (44.5048, −123.7566); Unnamed (44.5085, −123.6309); Unnamed (44.5108, −123.6249); Unnamed (44.5144, −123.6554); Unnamed (44.5204, −123.6148); Unnamed (44.5231, −123.6714); Unnamed (44.5256, −123.6804); Unnamed (44.5325, −123.7244); Unnamed (44.5332, −123.7211); Unnamed (44.5361, −123.7139); Unnamed (44.5370, −123.7643); Unnamed (44.5376, −123.6176); Unnamed (44.5410, −123.8213); Unnamed (44.5504, −123.8290); Unnamed (44.5530, −123.8282); Unnamed (44.5618, −123.8431); Unnamed (44.5687, −123.8563); Unnamed (44.5718, −123.7256); Unnamed (44.5734, −123.6696); Unnamed (44.5737, −123.6566); Unnamed (44.5771, −123.7027); Unnamed (44.5821, −123.8123); Unnamed (44.5840, −123.6678); Unnamed (44.5906, −123.7871); Unnamed (44.5990, −123.7808); Unnamed (44.5865, −123.8521); Wolf Creek (44.5873, −123.6939); Wolf Creek, Trib A (44.5862, −123.7188); Wolf Creek, Trib B (44.5847, −123.7062).

(iii) *Lower Yaquina River Watershed 1710020403.* Outlet(s) = Yaquina River (Lat 44.6098, Long −124.0818) upstream to endpoint(s) in: Abbey Creek (44.6330, −123.8881); Babcock Creek (44.5873, −123.9221); Beaver Creek (44.6717, −123.9799); Blue Creek (44.6141, −123.9936); Boone Slough,

Trib A (44.6134, – 123.9769); Depot Creek, Little (44.6935, – 123.9482); Depot Creek, Trib A (44.6837, – 123.9420); Drake Creek (44.6974, – 123.9690); East Fork Mill Creek (44.5691, – 123.8834); Flesher Slough (44.5668, – 123.9803); King Slough (44.5944, – 124.0323); Little Beaver Creek (44.6531, – 123.9728); McCaffery Slough (44.5659, – 124.0180); Mill Creek (44.5550, – 123.9064); Mill Creek, Trib A (44.5828, – 123.8750); Montgomery Creek (44.5796, – 123.9286); Nute Slough (44.6075, – 123.9660); Olalla Creek (44.6810, – 123.8972); Olalla Creek, Trib A (44.6511, – 123.9034); Parker Slough (44.5889, – 124.0119); Unnamed (44.5471, – 123.9557); Unnamed (44.5485, – 123.9308); Unnamed (44.5520, – 123.9433); Unnamed (44.5528, – 123.9695); Unnamed (44.5552, – 123.9294); Unnamed (44.5619, – 123.9348); Unnamed (44.5662, – 123.8905); Unnamed (44.5827, – 123.9456); Unnamed (44.5877, – 123.8850); Unnamed (44.6444, – 123.9059); Unnamed (44.6457, – 123.9996); Unnamed (44.6530, – 123.9914); Unnamed (44.6581, – 123.8947); Unnamed (44.6727 – 123.8942); Unnamed (44.6831, – 123.9940); West Olalla Creek (44.6812, – 123.9299); West Olalla Creek, Trib A (44.6649, – 123.9204); Wessel Creek (44.6988, – 123.9863); Wright Creek (44.5506, – 123.9250); Wright Creek, Trib A (44.5658, – 123.9422); Yaquina River (44.6219, – 123.8741).

(iv) *Middle Siletz River Watershed 1710020405*. Outlet(s) = Siletz River (Lat 44.7375, Long – 123.7917) upstream to endpoint(s) in: Buck Creek, East Fork (44.8410, – 123.7970); Buck Creek, South Fork (44.8233, – 123.8095); Buck Creek, West Fork (44.8352, – 123.8084); Cerine Creek (44.7478, – 123.7198); Deer Creek (44.8245, – 123.7268); Deer Creek, Trib A (44.8178, – 123.7397); Elk Creek (44.8704, – 123.7668); Fourth of July Creek (44.8203, – 123.6810); Gunn Creek (44.7816, – 123.7679); Holman River (44.8412, – 123.7707); Mill Creek, North Fork (44.7769, – 123.7361); Mill Creek, South Fork (44.7554, – 123.7276); Palmer Creek (44.7936, – 123.8344); Siletz River (44.8629, – 123.7323); Sunshine Creek (44.7977, – 123.6963); Unnamed (44.7691, – 123.7851); Unnamed (44.7747, – 123.7740); Unnamed (44.7749, – 123.7662); Unnamed (44.8118, – 123.6926); Unnamed (44.8188, – 123.6995); Unnamed (44.8312, – 123.6983); Unnamed (44.8583, – 123.7573); Whiskey Creek (44.8123, – 123.6937).

(v) *Rock Creek/Siletz River Watershed 1710020406*. Outlet(s) = Rock Creek (Lat 44.7375, Long – 123.7917) upstream to endpoint(s) in: Beaver Creek (44.7288, – 123.6773); Big Rock Creek (44.7636, – 123.6969); Brush Creek (44.6829, – 123.6582); Cedar Creek (44.7366, – 123.6586); Fisher Creek (44.7149, – 123.6359); Little Rock Creek (44.7164, – 123.6155); Little Steere Creek (44.7219, – 123.6368); Rock Creek, Trib A (44.7414, – 123.7508); Steere Creek (44.7336, – 123.6313); Unnamed (44.7175, – 123.6496); William Creek (44.7391, – 123.7277).

(vi) *Lower Siletz River Watershed 1710020407*. Outlet(s) = Siletz Bay (Lat 44.9269, Long – 124.0218) upstream to endpoint(s) in: Anderson Creek (44.9311, – 123.9508); Bear Creek (44.8682, – 123.8891); Bentilla Creek (44.7745, – 123.8555); Butterfield Creek (44.8587, – 123.9993); Cedar Creek (44.8653, – 123.8488); Cedar Creek, Trib D (44.8606, – 123.8696); Coon Creek (44.7959, – 123.8468); Dewey Creek (44.7255, – 123.9724); Drift Creek (44.9385, – 123.8211); Erickson Creek (44.9629, – 123.9490); Euchre Creek (44.8023, – 123.8687); Fowler Creek (44.9271, – 123.8440); Gordey Creek (44.9114, – 123.9724); Hough Creek (44.8052, – 123.8991); Jaybird Creek (44.7640, – 123.9733); Long Prairie Creek (44.6970, – 123.7499); Long Tom Creek (44.7037, – 123.8533); Mann Creek (44.6987, – 123.8025); Mill Creek (44.6949, – 123.8967); Miller Creek (44.7487, – 123.9733); North Creek (44.9279, – 123.8908); North Roy Creek (44.7916, – 123.9897); Ojalla Creek (44.7489, – 123.9427); Quarry Creek (44.8989, – 123.9360); Reed Creek (44.8020, – 123.8835); Reed Creek (44.8475, – 123.9267); Roots Creek (44.8300, – 123.9351); South Roy Creek (44.7773, – 123.9847); Sam Creek (44.7086, – 123.7312); Sampson Creek (44.9089, – 123.8173); Savage Creek (44.8021, – 123.8608); Scare Creek (44.8246, – 123.9954); Schooner Creek, North Fork (44.9661, – 123.8793); Schooner Creek, South Fork (44.9401, – 123.8689); Scott Creek (44.7414, – 123.8268); Sijota Creek (44.8883, – 124.0257); Siletz River (44.7375, – 123.7917); Skunk Creek (44.8780, – 123.9073); Smith Creek (44.9294, – 123.8056); Stemple Creek (44.8405, – 123.9492); Tangerman Creek (44.7278, – 123.8944); Thayer Creek (44.7023, – 123.8256); Thompson Creek (44.7520, – 123.8893); Unnamed (44.7003, – 123.7669); Unnamed (44.8904, – 123.8034); Unnamed (44.8927, – 123.8400); Unnamed (44.7034, – 123.7754); Unnamed (44.7145, – 123.8423); Unnamed (44.7410, – 123.8800); Unnamed (44.7925, – 123.9212); Unnamed (44.8396, – 123.8896); Unnamed (44.9035, – 123.8635); Unnamed (44.9240, – 123.7913); West Fork Mill Creek (44.7119, – 123.9703); Wildcat Creek (44.8915, – 123.8842).

(vii) *Salmon River/Siletz/Yaquina Bay Watershed 1710020408*. Outlet(s) = Salmon River (Lat 45.0474, Long – 124.0031) upstream to endpoint(s) in: Alder Brook (45.0318, – 123.8428); Bear Creek (44.9785, – 123.8580); Boulder Creek (45.0428, – 123.7817); Calkins Creek (45.0508, – 123.9615); Crowley Creek (45.0540, – 123.9819); Curl Creek (45.0150, – 123.9198); Deer Creek (45.0196, – 123.8091); Frazer Creek (45.0096, – 123.9576); Gardner Creek (45.0352, – 123.9024); Indian Creek (45.0495, – 123.8010); Little Salmon River (45.0546, – 123.7473); McMullen Creek (44.9829, – 123.8682); Panther Creek (45.0208, – 123.8878); Panther Creek, North Fork (45.0305, – 123.8910); Prairie Creek (45.0535, – 123.8129); Rowdy Creek (45.0182, – 123.9751); Salmon River (45.0269, – 123.7224); Slick Rock Creek (44.9903, – 123.8158); Sulphur Creek (45.0403, – 123.8216); Telephone Creek (45.0467, – 123.9348); Toketa Creek (45.0482, – 123.9088); Trout Creek (44.9693, – 123.8337); Unnamed (44.9912, – 123.8789); Unnamed (45.0370, – 123.7333); Unnamed (45.0433, – 123.7650); Widow Creek (45.0373, – 123.8530); Widow Creek, West Fork (45.0320, – 123.8643); Willis Creek (45.0059, – 123.9391).

(viii) *Devils Lake/Moolack Frontal Watershed 1710020409*. Outlet(s) = Big Creek (Lat 44.6590, Long – 124.0571); Coal Creek (44.7074, – 124.0615); D River (44.9684, – 124.0172); Fogarty Creek (44.8395, – 124.0520); Moolack Creek (44.7033, – 124.0622); North Depoe Bay Creek (44.8098, – 124.0617); Schoolhouse Creek (44.8734, – 124.0401); Spencer Creek (44.7292, – 124.0582); Wade Creek (44.7159, – 124.0600) upstream to endpoint(s) in: Big Creek (44.6558, – 124.0427); Coal Creek (44.7047, – 124.0099); Devils Lake (44.9997, – 123.9773); Fogarty Creek (44.8563, – 124.0153); Jeffries Creek (44.6425, – 124.0315); Moolack Creek (44.6931, – 124.0150); North Depoe Bay Creek (44.8157, – 124.0510); Rock Creek (44.9869, – 123.9317); South Depoe Bay Creek (44.7939, – 124.0126); Salmon Creek (44.8460, – 124.0164); Schoolhouse Creek (44.8634, – 124.0151); South Fork Spencer Creek (44.7323, – 123.9974); Spencer Creek, North Fork (44.7453, – 124.0276); Unnamed (44.8290, – 124.0318); Unnamed (44.9544, – 123.9867); Unnamed (44.9666, – 123.9731); Unnamed

(44.9774, −123.9706); Wade Creek (44.7166, −124.0057).

(5) Alsea Subbasin 17100205—(i) *Upper Alsea River Watershed 1710020501.* Outlet(s) = Alsea River, South Fork (Lat 44.3767, Long −123.6024) upstream to endpoint(s) in: Alder Creek (44.4573, −123.5188); Alsea River, South Fork (44.3261, −123.4891); Baker Creek (44.4329, −123.5522); Banton Creek (44.3317, −123.6020); Brown Creek (44.3151, −123.6250); Bummer Creek (44.3020, −123.5765); Cabin Creek (44.4431, −123.5328); Crooked Creek (44.4579, −123.5099); Dubuque Creek (44.3436, −123.5527); Ernest Creek (44.4234, −123.5275); Hayden Creek (44.4062, −123.5815); Honey Grove Creek (44.3874, −123.5078); North Fork Alsea River (44.4527, −123.6102); Parker Creek (44.4702, −123.5978); Peak Creek (44.3358, −123.4933); Record Creek (44.3254, −123.6331); Seeley Creek (44.4051, −123.5177); Swamp Creek (44.3007, −123.6108); Tobe Creek (44.3273, −123.5719); Trout Creek (44.3684, −123.5163); Unnamed (44.3108, −123.6225); Unnamed (44.3698, −123.5670); Unnamed (44.4574, −123.5001); Unnamed (44.3708, −123.5740); Unnamed (44.3713, −123.5656); Unnamed (44.3788, −123.5528); Unnamed (44.4270, −123.5492); Unnamed (44.4518, −123.6236); Yew Creek (44.4581, −123.5373); Zahn Creek (44.4381, −123.5425).

(ii) *Five Rivers/Lobster Creek Watershed 1710020502.* Outlet(s) = Five Rivers (Lat 44.3584, Long −123.8279) upstream to endpoint(s) in: Alder Creek (44.2947, −123.8105); Bear Creek (44.2824, −123.9123); Bear Creek (44.3588, −123.7930); Bear Creek (44.2589, −123.6647); Briar Creek (44.3184, −123.6602); Buck Creek (44.2428, −123.8989); Camp Creek (44.2685, −123.7552); Cascade Creek (44.3193, −123.9073); Cascade Creek, North Fork (44.3299, −123.8932); Cedar Creek (44.2732, −123.7753); Cherry Creek (44.3061, −123.8140); Coal Creek (44.2881, −123.6484); Cook Creek (44.2777, −123.6445); Cougar Creek (44.2723, −123.8678); Crab Creek (44.2458, −123.8750); Crazy Creek (44.2955, −123.7927); Crooked Creek (44.3154, −123.7986); Elk Creek (44.3432, −123.7969); Fendall Creek (44.2764, −123.7890); Five Rivers (44.2080, −123.8025); Green River (44.2286, −123.8751); Green River, East Fork (44.2255, −123.8143); Jasper Creek (44.2777, −123.7326); Little Lobster Creek (44.2961, −123.6266); Lobster Creek, East Fork (44.2552, −123.5897); Lobster Creek, South Fork (44.2326, −123.6060); Lobster Creek (44.2237, −123.6195); Lord Creek (44.2411, −123.7631); Martha Creek (44.2822, −123.6781); Meadow Creek (44.2925, −123.6591); Phillips Creek (44.3398, −123.7613); Preacher Creek (44.2482, −123.7440); Prindel Creek (44.2346, −123.7849); Ryan Creek (44.2576, −123.7971); Summers Creek (44.2589, −123.7627); Swamp Creek (44.3274, −123.8407); Unnamed (44.2845, −123.7007); Unnamed (44.2129, −123.7919); Unnamed (44.2262, −123.7982); Unnamed (44.2290, −123.8559); Unnamed (44.2327, −123.8344); Unnamed (44.2356, −123.8178); Unnamed (44.2447, −123.6460); Unnamed (44.2500, −123.8074); Unnamed (44.2511, −123.9011); Unnamed (44.2551, −123.8733); Unnamed (44.2614, −123.8652); Unnamed (44.2625, −123.8635); Unnamed (44.2694, −123.8180); Unnamed (44.2695, −123.7429); Unnamed (44.2696, −123.8497); Unnamed (44.2752, −123.7616); Unnamed (44.2760, −123.7121); Unnamed (44.2775, −123.8895); Unnamed (44.2802, −123.7097); Unnamed (44.2802, −123.8608); Unnamed (44.2823, −123.7900); Unnamed (44.2853, −123.7537); Unnamed (44.2895, −123.9083); Unnamed (44.2940, −123.7358); Unnamed (44.2954, −123.7602); Unnamed (44.2995, −123.7760); Unnamed (44.3024, −123.9064); Unnamed (44.3066, −123.8838); Unnamed (44.3070, −123.8280); Unnamed (44.3129, −123.7763); Unnamed (44.3214, −123.8161); Unnamed (44.3237, −123.9020); Unnamed (44.3252, −123.7382); Unnamed (44.3289, −123.8354); Unnamed (44.3336, −123.7431); Unnamed (44.3346, −123.7721); Wilkinson Creek (44.3296, −123.7249); Wilson Creek (44.3085, −123.8990).

(iii) *Drift Creek Watershed 1710020503.* Outlet(s) = Drift Creek (Lat 44.4157, Long −124.0043) upstream to endpoint(s) in: Boulder Creek (44.4434, −123.8705); Bush Creek (44.5315, −123.8631); Cape Horn Creek (44.5153, −123.7844); Cedar Creek (44.4742, −123.9699); Cougar Creek (44.4405, −123.9144); Deer Creek (44.5514, −123.8778); Drift Creek (44.4688, −123.7859); Ellen Creek (44.4415, −123.9413); Flynn Creek (44.5498, −123.8520); Gold Creek (44.4778, −123.8802); Gopher Creek (44.5217, −123.7787); Horse Creek (44.5347, −123.9072); Lyndon Creek (44.4395, −123.9801); Needle Branch (44.5154, −123.8537); Nettle Creek (44.4940, −123.7845); Slickrock Creek (44.4757, −123.9007); Trout Creek (44.4965, −123.9113); Trout Creek, East Fork (44.4705, −123.9290); Unnamed (44.4995, −123.8488); Unnamed (44.4386, −123.9200); Unnamed (44.4409, −123.8738); Unnamed (44.4832, −123.9570); Unnamed (44.4868, −123.9340); Unnamed (44.4872, −123.9518); Unnamed (44.4875, −123.9460); Unnamed (44.4911, −123.9227); Unnamed (44.5187, −123.7996); Unnamed (44.5260, −123.7848); Unnamed (44.5263, −123.8868); Unnamed (44.5326, −123.8453); Unnamed (44.5387, −123.8440); Unnamed (44.5488, −123.8694); Unnamed (44.4624, −123.8216).

(iv) *Lower Alsea River Watershed 1710020504.* Outlet(s) = Alsea River (Lat 44.4165, Long −124.0829) upstream to endpoint(s) in: Alsea River (44.3767, −123.6024); Arnold Creek (44.3922, −123.9503); Barclay Creek (44.4055, −123.8659); Bear Creek (44.3729, −123.9623); Bear Creek (44.3843, −123.7704); Beaty Creek (44.4044, −123.6043); Benner Creek (44.3543, −123.7447); Brush Creek (44.3826, −123.8537); Bull Run Creek (44.4745, −123.7439); Canal Creek (44.3322, −123.9460); Canal Creek, East Fork (44.3454, −123.9161); Carns Canyon (44.4027, −123.7550); Cedar Creek (44.3875, −123.7946); Cove Creek (44.4403, −123.7107); Cow Creek (44.3620, −123.7510); Darkey Creek (44.3910, −123.9927; Digger Creek (44.3906, −123.6890); Fall Creek (44.4527, −123.6864); Fall Creek (44.4661, −123.6933); George Creek (44.3556, −123.8603); Grass Creek (44.3577, −123.8798); Hatchery Creek (44.3952, −123.7269); Hatchery Creek (44.4121, −123.8734); Hoover Creek (44.3618, −123.8583); Lake Creek (44.3345, −123.8725); Lint Creek (44.3850, −124.0490); Maltby Creek (44.3833, −123.6770); Meadow Fork (44.3764, −123.8879); Mill Creek (44.4046, −123.6436); Minotti Creek (44.3750, −123.7718); Nye Creek (44.4326, −123.7648); Oxstable Creek (44.3912, −123.9603); Phillips Creek (44.3803, −123.7780); Red Creek (44.3722, −123.9162); Risley Creek (44.4097, −123.9380); Schoolhouse Creek (44.3897, −123.6545); Scott Creek, East Fork (44.4252, −123.7897); Scott Creek, West Fork (44.4212, −123.8225); Skinner Creek (44.3585, −123.9374); Skunk Creek (44.3998, −123.6912); Slide Creek (44.3986, −123.8419); Starr Creek (44.4477, −124.0130); Sudan Creek (44.3817, −123.9717); Sulmon Creek (44.3285, −123.7008); Sulmon Creek, North Fork (44.3421, −123.6374); Sulmon Creek, South Fork (44.3339, −123.6709); Swede Fork

(44.3852, −124.0295); Unnamed (44.3319, −123.9318); Unnamed (44.3356, −123.9464); Unnamed (44.3393, −123.9360); Unnamed (44.3413, −123.9294); Unnamed (44.3490, −123.9058); Unnamed (44.3548, −123.6574); Unnamed (44.3592, −123.6363); Unnamed (44.3597, −123.9042); Unnamed (44.3598, −123.6563); Unnamed (44.3598, −123.6562); Unnamed (44.3600, −123.6514); Unnamed (44.3656, −123.9085); Unnamed (44.3680, −123.9629); Unnamed (44.3794, −123.8268); Unnamed (44.3800, −123.9134); Unnamed (44.3814, −123.7650); Unnamed (44.3822, −124.0555); Unnamed (44.3823, −124.0451); Unnamed (44.3989, −123.6050); Unnamed (44.4051, −124.0527); Unnamed (44.4166, −123.8149); Unnamed (44.4537, −123.7247); Walker Creek (44.4583, −124.0271); Weist Creek (44.3967, −124.0256); West Creek (44.3588, −123.9493).

(v) *Beaver Creek/Waldport Bay Watershed 1710020505.* Outlet(s) = Beaver Creek (Lat 44.5233, Long −124.0734); Deer Creek (44.5076, −124.0807); Thiel Creek (44.5646, −124.0709) upstream to endpoint(s) in: Beaver Creek, North Fork, Trib G (44.5369, −123.9195); Beaver Creek, South Fork (44.4816, −123.9853); Beaver Creek, South Fork, Trib A (44.4644, −124.0332); Bowers Creek (44.5312, −124.0117); Bunnel Creek (44.5178, −124.0265); Deer Creek (44.5057, −124.0721); Elkhorn Creek (44.5013, −123.9572); Elkhorn Creek (44.4976, −123.9685); Lewis Creek (44.5326, −123.9532); North Fork Beaver Creek (44.5149, −123.8988); Oliver Creek (44.4660, −124.0471); Peterson Creek (44.5419, −123.9738); Pumphouse Creek (44.5278, −124.0569); Simpson Creek (44.5255, −124.0390); Thiel Creek (44.5408, −124.0254); Tracy Creek (44.5411, −124.0500); Unnamed (44.4956, −123.9751); Unnamed (44.5189, −124.0638); Unnamed (44.5225, −123.9313); Unnamed (44.5256, −123.9399); Unnamed (44.5435, −124.0221); Unnamed (44.5461, −124.0311); Unnamed (44.5472, −124.0591); Unnamed (44.5482, −124.0249); Unnamed (44.5519, −124.0279); Unnamed (44.5592, −124.0531); Worth Creek (44.5013, −124.0207).

(vi) *Yachats River Watershed 1710020506.* Outlet(s) = Yachats River (Lat 44.3081, Long −124.1070) upstream to endpoint(s) in: Axtell Creek (44.3084, −123.9915); Beamer Creek (44.3142, −124.0124); Bend Creek (44.2826, −124.0077); Carson Creek (44.3160, −124.0030); Dawson Creek (44.2892, −124.0133); Depew Creek (44.3395, −123.9631); Earley Creek (44.3510, −123.9885); Fish Creek (44.3259, −123.9592); Glines Creek (44.3436, −123.9756); Grass Creek (44.2673, −123.9109); Helms Creek (44.2777, −123.9954); Keller Creek (44.2601, −123.9485); Little Beamer Creek (44.2993, −124.0213); Reedy Creek (44.3083, −124.0460); South Beamer Creek (44.2852, −124.0325); Stump Creek (44.2566, −123.9624); Unnamed (44.2596, −123.9279); Unnamed (44.2657, −123.9585); Unnamed (44.2660, −123.9183); Unnamed (44.2684, −123.9711); Unnamed (44.2837, −123.9268); Unnamed (44.2956, −123.9316); Unnamed (44.3005, −123.9324); Unnamed (44.3163, −123.9428); Unnamed (44.3186, −123.9568); Unnamed (44.3259, −123.9578); Unnamed (44.3431, −123.9711); West Fork Williamson Creek (44.3230, −124.0008); Williamson Creek (44.3300, −124.0026); Yachats River (44.2468, −123.9329); Yachats River, North Fork (44.3467, −123.9972); Yachats River, School Fork (44.3145, −123.9341).

(vii) *Cummins Creek/Tenmile Creek/Mercer Lake Frontal Watershed 1710020507.* Outlet(s) = Berry Creek (Lat 44.0949, Long −124.1221); Big Creek (44.1767, −124.1148); Bob Creek (44.2448, −124.1118); Cape Creek (44.1336, −124.1211); Cummins Creek (44.2660, −124.1075); Rock Creek (44.1833, −124.1149); Sutton Creek (44.0605, −124.1269); Tenmile Creek (44.2245, −124.1083) upstream to endpoint(s) in: Bailey Creek (44.1037, −124.0530); Berry Creek (44.0998, −124.0885); Big Creek (44.1866, −123.9781); Big Creek, South Fork (44.1692, −123.9688); Big Creek, Trib A (44.1601, −124.0231); Bob Creek (44.2346, −124.0235); Cape Creek (44.1351, −124.0174); Cape Creek, North Fork (44.1458, −124.0489); Cummins Creek (44.2557, −124.0104); Fryingpan Creek (44.1723, −124.0401); Levage Creek (44.0745, −124.0588); Little Cummins Creek (44.2614, −124.0851); McKinney Creek (44.2187, −123.9985); Mercer Creek (44.0712, −124.0796); Mill Creek (44.2106, −124.0747); Quarry Creek (44.0881, −124.1124); Rath Creek (44.0747, −124.0901); Rock Creek (44.1882, −124.0310); Tenmile Creek (44.2143, −123.9351); Tenmile Creek, South Fork (44.2095, −123.9607); Unnamed (44.1771, −124.0908); Unnamed (44.0606, −124.0805); Unnamed (44.0624, −124.0552); Unnamed (44.0658, −124.0802); Unnamed (44.0690, −124.0490); Unnamed (44.0748, −124.0478); Unnamed (44.0814, −124.0464); Unnamed (44.0958, −124.0559); Unnamed (44.1283, −124.0242); Unnamed (44.1352, −124.0941); Unnamed (44.1712, −124.0558); Unnamed (44.1715, −124.0636); Unnamed (44.2011, −123.9634); Unnamed (44.2048, −123.9971); Unnamed (44.2146, −124.0358); Unnamed (44.2185, −124.0270); Unnamed (44.2209, −123.9368); Wapiti Creek (44.1216, −124.0448); Wildcat Creek (44.2339, −123.9632).

(viii) *Big Creek/Vingie Creek Watershed 1710020508.* Outlet(s) = Big Creek (Lat 44.3742, Long −124.0896) upstream to endpoint(s) in: Big Creek (44.3564, −124.0613); Dicks Fork Big Creek (44.3627, −124.0389); Reynolds Creek (44.3768, −124.0740); South Fork Big Creek (44.3388, −124.0597); Unnamed (44.3643, −124.0355); Unnamed (44.3662, −124.0573); Unnamed (44.3686, −124.0683).

(6) Siuslaw Subbasin 17100206—(i) *Upper Siuslaw River Watershed 1710020601.* Outlet(s) = Siuslaw River (Lat 44.0033, Long −123.6545) upstream to endpoint(s) in: Bear Creek (43.8482, −123.5172); Bear Creek, Trib A (43.8496, −123.5059); Bierce Creek (43.8750, −123.5559); Big Canyon Creek (43.9474, −123.6582); Bottle Creek (43.8791, −123.3871); Bounds Creek (43.9733, −123.7108); Buck Creek, Trib B (43.8198, −123.3913); Buck Creek, Trib E (43.8152, −123.4248); Burntwood Creek (43.9230, −123.5342); Cabin Creek (43.8970, −123.6754); Camp Creek (43.9154, −123.4904); Canyon Creek (43.9780, −123.6096); Clay Creek (43.8766, −123.5721); Collins Creek (43.8913, −123.6047); Conger Creek (43.8968, −123.4524); Doe Creek (43.8957, −123.3558); Doe Hollow Creek (43.8487, −123.4603); Dogwood Creek (43.8958, −123.3811); Douglas Creek (43.8705, −123.2836); Edris Creek (43.9224, −123.5531); Esmond Creek (43.8618, −123.5772); Esmond Creek, Trib 1 (43.9303, −123.6518); Esmond Creek, Trib A (43.8815, −123.6646); Farman Creek (43.8761, −123.2562); Fawn Creek (43.8743, −123.2992); Fawn Creek (43.9436, −123.6088); Fryingpan Creek (43.8329, −123.4241); Fryingpan Creek (43.8422, −123.4318); Gardner Creek (43.8024, −123.2582); Haight Creek (43.8406, −123.4862); Haskins Creek (43.8785, −123.5851); Hawley Creek (43.8599, −123.1558); Hawley Creek, North Fork (43.8717, −123.1751); Holland Creek (43.8775, −123.4156); Jeans Creek (43.8616, −123.4714); Johnson Creek (43.8822, −123.5332); Kelly Creek (43.8338, −123.1739); Kline Creek (43.9034, −123.6635); Leopold Creek (43.9199, −123.6890); Leopold

Creek, Trib A (43.9283, −123.6630); Letz Creek, Trib B (43.7900, −123.3248); Lick Creek (43.8366, −123.2695); Little Siuslaw Creek (43.8048, −123.3412); Lucas Creek (43.8202, −123.2233); Luyne Creek (43.9155, −123.5068); Luyne Creek, Trib A (43.9179, −123.5208); Michaels Creek (43.8624, −123.5417); Mill Creek (43.9028, −123.6228); Norris Creek (43.8434, −123.2006); North Creek (43.9223, −123.5752); North Fork Siuslaw River (43.8513, −123.2302); Oxbow Creek (43.8384, −123.5433); Oxbow Creek, Trib C (43.8492, −123.5465); Pheasant Creek (43.9120, −123.4247); Pheasant Creek, Trib 2 (43.9115, −123.4411); Pugh Creek (43.9480, −123.5940); Russell Creek (43.8813, −123.3425); Russell Creek, Trib A (43.8619, −123.3498); Sandy Creek (43.7684, −123.2441); Sandy Creek, Trib B (43.7826, −123.2538); Shaw Creek (43.8817, −123.3289); Siuslaw River, East Trib (43.8723, −123.5378); Siuslaw River, North Fork, Upper Trib (43.8483, −123.2275); Smith Creek (43.8045, −123.3665); South Fork Siuslaw River (43.7831, −123.1569); Trail Creek (43.9142, −123.6241); Tucker Creek (43.8159, −123.1604); Unnamed (43.7796, −123.2019); Unnamed (43.7810, −123.2818); Unnamed (43.8278, −123.2610); Unnamed (43.8519, −123.2773); Unnamed (43.8559, −123.5520); Unnamed (43.8670, −123.6022); Unnamed (43.8876, −123.5194); Unnamed (43.8902, −123.5609); Unnamed (43.8963, −123.4171); Unnamed (43.8968, −123.4731); Unnamed (43.8992, −123.4033); Unnamed (43.9006, −123.4637); Unnamed (43.9030, −123.6434); Unnamed (43.9492, −123.6924); Unnamed (43.9519, −123.6886); Unnamed (43.9784, −123.6815); Unnamed (43.9656, −123.7145); Whittaker Creek (43.9490, −123.7004); Whittaker Creek, Trib B (43.9545, −123.7121).

(ii) *Wolf Creek Watershed 1710020602.* Outlet(s) = Wolf Creek (Lat 43.9548, Long −123.6205) upstream to endpoint(s) in: Bill Lewis Creek (43.9357, −123.5708); Cabin Creek (43.9226, −123.4081); Eames Creek (43.9790, −123.4352); Eames Creek, Trib C (43.9506, −123.4371); Elkhorn Creek (43.9513, −123.3934); Fish Creek (43.9238, −123.3872); Gall Creek (43.9865, −123.5187); Gall Creek, Trib 1 (43.9850, −123.5285); Grenshaw Creek (43.9676, −123.4645); Lick Creek (43.9407, −123.5796); Oat Creek, Trib A (43.9566, −123.5052); Oat Creek, Trib C (43.9618, −123.4902); Oat Creek (43.9780, −123.4761); Panther Creek (43.9529, −123.3744); Pittenger Creek (43.9713, −123.5434); Saleratus Creek (43.9796, −123.5675); Saleratus Creek, Trib A (43.9776, −123.5797); Swamp Creek (43.9777, −123.4197); Swing Log Creek (43.9351, −123.3339); Unnamed (43.9035, −123.3358); Unnamed (43.9343, −123.3648); Unnamed (43.9617, −123.4507); Unnamed (43.9668, −123.6041); Unnamed (43.9693, −123.4846); Van Curen Creek (43.9364, −123.5520); Wolf Creek (43.9101, −123.3234).

(iii) *Wildcat Creek Watershed 1710020603.* Outlet(s) = Wildcat Creek (Lat 44.0033, Long −123.6545) upstream to endpoint(s) in: Bulmer Creek (44.0099, −123.5206); Cattle Creek (44.0099, −123.5475); Fish Creek (44.0470, −123.5383); Fowler Creek (43.9877, −123.5918); Haynes Creek (44.1000, −123.5578); Kirk Creek (44.0282, −123.6270); Knapp Creek (44.1006, −123.5801); Miller Creek (44.0767, −123.6034); Pataha Creek (43.9914, −123.5361); Potato Patch Creek (43.9936, −123.5812); Salt Creek (44.0386, −123.5021); Shady Creek (44.0647, −123.5838); Shultz Creek (44.0220, −123.6320); Unnamed (43.9890, −123.5468); Unnamed (44.0210, −123.4805); Unnamed (44.0233, −123.4996); Unnamed (44.0242, −123.4796); Unnamed (44.0253, −123.4963); Unnamed (44.0283, −123.5311); Unnamed (44.0305, −123.5275); Unnamed (44.0479, −123.6199); Unnamed (44.0604, −123.5624); Unnamed (44.0674, −123.6075); Unnamed (44.0720, −123.5590); Unnamed (44.0839, −123.5777); Unnamed (44.0858, −123.5787); Unnamed (44.0860, −123.5741); Unnamed (44.0865, −123.5935); Unnamed (44.0945, −123.5838); Unnamed (44.0959, −123.5902); Walker Creek (44.0469, −123.6312); Walker Creek, Trib C (44.0418, −123.6048); Wildcat Creek (43.9892, −123.4308); Wildcat Creek, Trib ZH (43.9924, −123.4975); Wildcat Creek, Trib ZI (44.0055, −123.4681).

(iv) *Lake Creek Watershed 1710020604.* Outlet(s) = Lake Creek (Lat 44.0556, Long −123.7968) upstream to endpoint(s) in: Chappell Creek (44.1158, −123.6921); Conrad Creek (44.1883, −123.4918); Druggs Creek (44.1996, −123.5926); Fish Creek (44.1679, −123.5149); Green Creek (44.1389, −123.7930); Greenleaf Creek (44.1766, −123.6391); Hula Creek (44.1202, −123.7087); Johnson Creek (44.1037, −123.7327); Lake Creek (44.2618, −123.5148); Lamb Creek (44.1401, −123.5991); Leaver Creek (44.0754, −123.6285); Leibo Canyon (44.2439, −123.4648); Little Lake Creek (44.1655, −123.6004); McVey Creek (44.0889, −123.6875); Nelson Creek (44.1229, −123.5558); North Fork Fish Creek (44.1535, −123.5437); Pontius Creek (44.1911, −123.5909); Pope Creek (44.2118, −123.5319); Post Creek (44.1828, −123.5259); Stakely Canyon (44.2153, −123.4690); Steinhauer Creek (44.1276, −123.6594); Swamp Creek (44.2150, −123.5687); Swartz Creek (44.2304, −123.4461); Target Canyon (44.2318, −123.4557); Unnamed (44.1048, −123.6540); Unnamed (44.1176, −123.5846); Unnamed (44.1355, −123.5473); Unnamed (44.1355, −123.6125); Unnamed (44.1382, −123.5539); Unnamed (44.1464, −123.5843); Unnamed (44.1659, −123.5658); Unnamed (44.1725, −123.5981); Unnamed (44.1750, −123.5914); Unnamed (44.1770, −123.5697); Unnamed (44.1782, −123.5419); Unnamed (44.1798, −123.5834); Unnamed (44.1847, −123.5862); Unnamed (44.2042, −123.5700); Unnamed (44.2143, −123.5873); Unnamed (44.2258, −123.4493); Unnamed (44.2269, −123.5478); Unnamed (44.2328, −123.5285); Unnamed (44.2403, −123.5358); Unnamed (44.2431, −123.5105); Unnamed (44.2437, −123.5739); Unnamed (44.2461, −123.5180); Unnamed (44.2484, −123.5501); Unnamed (44.2500, −123.5691); Unnamed (44.2573, −123.4736); Unnamed (44.2670, −123.4840); Wheeler Creek (44.1232, −123.6778).

(v) *Deadwood Creek Watershed 1710020605.* Outlet(s) = Deadwood Creek (Lat 44.0949, Long −123.7594) upstream to endpoint(s) in: Alpha Creek (44.1679, −123.6951); Bear Creek (44.1685, −123.6627); Bear Creek, South Fork (44.1467, −123.6743); Buck Creek (44.2003, −123.6683); Deadwood Creek (44.2580, −123.6885); Deadwood Creek, West Fork (44.1946, −123.8023); Deer Creek (44.1655, −123.7229); Failor Creek (44.1597, −123.8003); Fawn Creek (44.2356, −123.7244); Karlstrom Creek (44.1776, −123.7133); Misery Creek (44.1758, −123.7950); North Fork Panther Creek (44.2346, −123.7362); Panther Creek (44.2273, −123.7558); Raleigh Creek (44.1354, −123.6926); Rock Creek (44.1812, −123.6683); Schwartz Creek (44.1306, −123.7258); Unnamed (44.2011, −123.7273); Unnamed (44.1806, −123.7693); Unnamed (44.1845, −123.6824); Unnamed (44.1918, −123.7521); Unnamed (44.1968, −123.7664); Unnamed (44.2094, −123.6674); Unnamed (44.2149, −123.7639); Unnamed (44.2451, −123.6705);

Unnamed (44.2487, −123.7137); Unnamed (44.2500, −123.6933).

(vi) *Indian Creek/Lake Creek Watershed 1710020606.* Outlet(s) = Indian Creek (Lat 44.0808, Long −123.7891) upstream to endpoint(s) in: Cremo Creek (44.1424, −123.8144); Elk Creek (44.1253, −123.8821); Gibson Creek (44.1548, −123.8132); Herman Creek (44.2089, −123.8220); Indian Creek (44.2086, −123.9171); Indian Creek, North Fork (44.2204, −123.9016); Indian Creek, West Fork (44.2014, −123.9075); Long Creek (44.1395, −123.8800); Maria Creek (44.1954, −123.9219); Pyle Creek (44.1792, −123.8623); Rogers Creek (44.1851, −123.9397); Smoot Creek (44.1562, −123.8449); Taylor Creek (44.1864, −123.8115); Unnamed (44.1643, −123.8993); Unnamed (44.1727, −123.8154); Unnamed (44.1795, −123.9180); Unnamed (44.1868, −123.9002); Unnamed (44.1905, −123.8633); Unnamed (44.1967, −123.8872); Unnamed (44.2088, −123.8381); Unnamed (44.2146, −123.8528); Unnamed (44.2176, −123.8462); Unnamed (44.2267, −123.8912); Velvet Creek (44.1295, −123.8087).

(vii) *North Fork Siuslaw River Watershed 1710020607.* Outlet(s) = North Fork Siuslaw River (Lat 43.9719, Long −124.0783) upstream to endpoint(s) in: Billie Creek (44.0971, −124.0362); Cataract Creek (44.0854, −123.9497); Cedar Creek (44.1534, −123.9045); Condon Creek (44.1138, −123.9984); Coon Creek (44.0864, −124.0318); Deer Creek (44.1297, −123.9475); Drew Creek (44.1239, −123.9801); Drew Creek (44.1113, −123.9854); Elma Creek (44.1803, −123.9434); Hanson Creek (44.0776, −123.9328); Haring Creek (44.0307, −124.0462); Lawrence Creek (44.1710, −123.9504); Lindsley Creek (44.0389, −124.0591); McLeod Creek (44.1050, −123.8805); Morris Creek (44.0711, −124.0308); Porter Creek (44.1490, −123.9641); Russell Creek (44.0680, −123.9848); Sam Creek (44.1751, −123.9527); Slover Creek (44.0213, −124.0531); South Russell Creek (44.0515, −123.9840); Taylor Creek (44.1279, −123.9052); Uncle Creek (44.1080, −124.0174); Unnamed (43.9900, −124.0784); Unnamed (43.9907, −124.0759); Unnamed (43.9953, −124.0514); Unnamed (43.9958, −124.0623); Unnamed (43.9999, −124.0694); Unnamed (44.0018, −124.0596); Unnamed (44.0050, −124.0556); Unnamed (44.0106, −124.0650); Unnamed (44.0135, −124.0609); Unnamed (44.0166, −124.0371); Unnamed (44.0194, −124.0631); Unnamed (44.0211, −124.0663); Unnamed (44.0258, −124.0594); Unnamed (44.0304, −124.0129); Unnamed (44.0327, −124.0670); Unnamed (44.0337, −124.0070); Unnamed (44.0342, −124.0056); Unnamed (44.0370, −124.0391); Unnamed (44.0419, −124.0013); Unnamed (44.0441, −124.0321); Unnamed (44.0579, −124.0077); Unnamed (44.0886, −124.0192); Unnamed (44.0892, −123.9925); Unnamed (44.0941, −123.9131); Unnamed (44.0976, −124.0033); Unnamed (44.1046, −123.9032); Unnamed (44.1476, −123.8959); Unnamed (44.1586, −123.9150); West Branch North Fork Siuslaw River (44.1616, −123.9616); Wilhelm Creek (44.1408, −123.9774).

(viii) *Lower Siuslaw River Watershed 1710020608.* Outlet(s) = Siuslaw River (Lat 44.0160, Long −124.1327) upstream to endpoint(s) in: Barber Creek (44.0294, −123.7598); Beech Creek (44.0588, −123.6980); Berkshire Creek (44.0508, −123.8890); Bernhardt Creek (43.9655, −123.9532); Brush Creek (44.0432, −123.7798); Brush Creek, East Fork (44.0414, −123.7782); Cedar Creek (43.9696, −123.9304); Cleveland Creek (44.0773, −123.8343); Demming Creek (43.9643, −124.0313); Dinner Creek (44.0108, −123.8069); Divide Creek (44.0516, −123.9421); Duncan Inlet (44.0081, −123.9921); Hadsall Creek (43.9846, −123.8221); Hadsall Creek, Trib D (43.9868, −123.8500); Hadsall Creek, Trib E (43.9812, −123.8359); Hanson Creek (44.0364, −123.9628); Hoffman Creek (43.9808, −123.9412); Hollenbeck Creek (44.0321, −123.8672); Hood Creek (43.9996, −123.7995); Karnowsky Creek (43.9847, −123.9658); Knowles Creek (43.9492, −123.7315); Knowles Creek, Trib L (43.9717, −123.7830); Lawson Creek, Trib B (43.9612, −123.9659); Meadow Creek (44.0311, −123.6490); Munsel Creek (44.0277, −124.0788); Old Man Creek (44.0543, −123.8022); Pat Creek (44.0659, −123.7245); Patterson Creek (43.9984, −124.0234); Rice Creek (44.0075, −123.8519); Rock Creek (44.0169, −123.6512); South Fork Waite Creek (43.9929, −123.7105); San Antone Creek (44.0564, −123.6515); Shoemaker Creek (44.0669, −123.8977); Shutte Creek (43.9939, −124.0339); Siuslaw River (44.0033, −123.6545); Skunk Hollow (43.9830, −124.0626); Smith Creek (44.0393, −123.6674); Spencer Creek (44.0676, −123.8809); Sulphur Creek (43.9822, −123.8015); Sweet Creek (43.9463, −123.9016); Sweet Creek, Trib A (44.0047, −123.8907); Sweet Creek, Trib D (43.9860, −123.8811); Thompson Creek (44.0974, −123.8615); Turner Creek (44.0096, −123.7607); Unnamed (43.9301, −124.0434); Unnamed (43.9596, −124.0337); Unnamed (43.9303, −124.0487); Unnamed (43.9340, −124.0529); Unnamed (43.9367, −124.0632); Unnamed (43.9374, −124.0442); Unnamed (43.9481, −124.0530); Unnamed (43.9501, −124.0622); Unnamed (43.9507, −124.0533); Unnamed (43.9571, −124.0658); Unnamed (43.9576, −124.0491); Unnamed (43.9587, −124.0988); Unnamed (43.9601, −124.0927); Unnamed (43.9615, −124.0527); Unnamed (43.9618, −124.0875); Unnamed (43.9624, −123.7499); Unnamed (43.9662, −123.7639); Unnamed (43.9664, −123.9252); Unnamed (43.9718, −124.0389; Unnamed (43.9720, −124.0075); Unnamed (43.9751, −124.0090); Unnamed (43.9784, −124.0191); Unnamed (43.9796, −123.9150); Unnamed (43.9852, −123.9802); Unnamed (43.9878, −123.9845); Unnamed (43.9915, −123.9732); Unnamed (43.9938, −123.9930); Unnamed (43.9942, −123.8547); Unnamed (43.9943, −123.9891); Unnamed (43.9954, −124.1185); Unnamed (43.9956, −123.7074); Unnamed (43.9995, −123.9825); Unnamed (44.0023, −123.7317); Unnamed (44.0210, −123.7874); Unnamed (44.0240, −123.8989); Unnamed (44.0366, −123.7363); Unnamed (44.0506, −123.9068); Waite Creek (43.9886, −123.7220); Walker Creek (44.0566, −123.9129); Wilson Creek (44.0716, −123.8792).

(7) Siltcoos Subbasin 17100207—(i) *Waohink River/Siltcoos River/ Tahkenitch Lake Frontal Watershed 1710020701.* Outlet(s) = Siltcoos River (Lat 43.8766, Long −124.1548); Tahkenitch Creek (43.8013, −124.1689) upstream to endpoint(s) in: Alder Creek (43.8967, −124.0114); Bear Creek (43.9198, −123.9293); Bear Creek Trib (43.9030, −123.9881); Bear Creek, South Fork (43.9017, −123.9555); Bell Creek (43.8541, −123.9718); Billy Moore Creek (43.8876, −123.9604); Carle Creek (43.9015, −124.0210); Carter Creek (43.9457, −124.0123); Dismal Swamp (43.8098, −124.0871); Elbow Lake Creek (43.7886, −124.1490); Fiddle Creek (43.9132, −123.9164); Fivemile Creek (43.8297, −123.9776); Grant Creek (43.9373, −124.0278); Harry Creek (43.8544, −124.0220); Henderson Canyon (43.8648, −123.9654); Henderson Creek (43.9427, −123.9704); John Sims Creek (43.8262, −124.0792); King Creek (43.8804, −124.0300); Lane Creek (43.8437, −124.0765); Leitel Creek

(43.8181, −124.0200); Mallard Creek (43.7775, −124.0852); Maple Creek (43.9314, −123.9316); Maple Creek, North Prong (43.9483, −123.9510); Miles Canyon (43.8643, −124.0097); Miller Creek (43.9265, −124.0663); Mills Creek (43.8966, −124.0397); Morris Creek (43.8625, −123.9541); Perkins Creek (43.8257, −124.0448); Rider Creek (43.9210, −123.9700); Roache Creek (43.9087, −124.0049); Schrum Creek (43.9194, −124.0492); Schultz Creek (43.9245, −123.9371); Stokes Creek (43.9161, −123.9984); Tenmile Creek (43.9419, −123.9447); Unnamed (43.8928, −124.0461); Unnamed (43.7726, −124.1021); Unnamed (43.7741, −124.1313); Unnamed (43.7756, −124.1363); Unnamed (43.7824, −124.1342); Unnamed (43.7829, −124.0852); Unnamed (43.7837, −124.0812); Unnamed (43.7849, −124.0734); Unnamed (43.7862, −124.0711); Unnamed (43.7865, −124.1107); Unnamed (43.7892, −124.1163); Unnamed (43.7897, −124.0608); Unnamed (43.7946, −124.0477); Unnamed (43.7964, −124.0643); Unnamed (43.8015, −124.0450); Unnamed (43.8078, −124.0340); Unnamed (43.8095, −124.1362); Unnamed (43.8112, −124.0608); Unnamed (43.8152, −124.0981); Unnamed (43.8153, −124.1314); Unnamed (43.8172, −124.0752); Unnamed (43.8231, −124.0853); Unnamed (43.8321, −124.0128); Unnamed (43.8322, −124.0069); Unnamed (43.8323, −124.1016); Unnamed (43.8330, −124.0217); Unnamed (43.8361, −124.1209); Unnamed (43.8400, −123.9802); Unnamed (43.8407, −124.1051); Unnamed (43.8489, −124.0634); Unnamed (43.8500, −123.9852); Unnamed (43.8504, −124.1248); Unnamed (43.8504, −124.0024); Unnamed (43.8507, −124.0511); Unnamed (43.8589, −124.1231); Unnamed (43.8596, −124.0438); Unnamed (43.8605, −124.1211); Unnamed (43.8669, −124.0717); Unnamed (43.8670, −124.0327); Unnamed (43.8707, −124.0689); Unnamed (43.8802, −124.0605); Unnamed (43.8862, −124.0570); Unnamed (43.8913, −123.9380); Unnamed (43.8919, −124.0771); Unnamed (43.8976, −124.0725); Unnamed (43.9032, −124.0651); Unnamed (43.9045, −124.0548); Unnamed (43.9057, −124.0606); Unnamed (43.9065, −124.0656); Unnamed (43.9105, −124.0453); Unnamed (43.9106, −124.0203); Unnamed (43.9202, −124.0786); Unnamed (43.9209, −124.0734); Unnamed (43.9237, −124.0155); Unnamed (43.9249, −124.0074); Unnamed (43.9274, −124.0759); Unnamed (43.9275, −124.0308); Unnamed (43.9360, −124.0892); Unnamed (43.9365, −124.0297); Unnamed (43.9424, −124.0981); Unnamed (43.9438, −124.0929); Unnamed (43.9453, −124.0752); Unnamed (43.9518, −123.9953).

(8) North Fork Umpqua Subbasin 17100301—(i) *Boulder Creek Watershed 1710030106.* Outlet(s) = Boulder Creek (Lat 43.3036, Long −122.5272) upstream to endpoint(s) in: Boulder Creek (Lat 43.3138, Long −122.5247)

(ii) *Middle North Umpqua Watershed 1710030107.* Outlet(s) = North Umpqua River (Lat 43.3322, Long −123.0025) upstream to endpoint(s) in: Calf Creek (43.2852, −122.6229); Copeland Creek (43.2853, −122.5325); Deception Creek (43.2766, −122.5850); Dry Creek (43.2967, −122.6016); Honey Creek (43.3181, −122.9414); Limpy Creek (43.3020, −122.6795); North Umpqua River (43.3027, −122.4938); Panther Creek (43.3019, −122.6801); Steamboat Creek (43.3491, −122.7281); Susan Creek (43.3044, −122.9058); Williams Creek (43.3431, −122.7724).

(iii) *Rock Creek/North Umpqua River Watershed 1710030110.* Outlet(s) = Rock Creek (Lat 43.3322, Long −123.0025) upstream to endpoint(s) in: Conley Creek (43.3594, −122.9663); Harrington Creek (43.4151, −122.9550); Kelly Creek (43.3592, −122.9912); McComas Creek (43.3536, −122.9923); Miller Creek (43.3864, −122.9371); Rock Creek (43.4247, −122.9055); Rock Creek, East Fork (43.3807, −122.8270); Rock Creek, East Fork, North Fork (43.4147, −122.8512); Shoup Creek (43.3882, −122.9674); Unnamed (43.3507, −122.9741); Woodstock Creek (43.3905, −122.9258).

(iv) *Little River Watershed 1710030111.* Outlet(s) = Little River (Lat 43.2978, Long −123.1012) upstream to endpoint(s) in: Buck Peak Creek (43.1762, −123.0479); Buckhorn Creek (43.2592, −123.1072); Cavitt Creek (43.1464, −122.9758); Copperhead Creek (43.1626, −123.0595); Emile Creek (43.2544, −122.8849); Evarts Creek (43.2087, −123.0133); Jim Creek (43.2257, −123.0592); Little River (43.2065, −122.8231); McKay Creek (43.2092, −123.0356); Tuttle Creek (43.1440, −122.9813); White Rock Creek (43.1540, −123.0379); Wolf Creek (43.2179, −122.9461).

(v) *Lower North Umpqua River Watershed 1710030112.* Outlet(s) = North Umpqua River (Lat 43.2682, Long −123.4448) upstream to endpoint(s) in: Bradley Creek (43.3350, −123.1025); Clover Creek (43.2490, −123.2604); Cooper Creek (43.3420, −123.1650); Cooper Creek (43.3797, −123.2807); Dixon Creek (43.2770, −123.2911); French Creek (43.3349, −123.0801); Huntley Creek (43.3363, −123.1340); North Umpqua River (43.3322, −123.0025); Oak Creek (43.2839, −123.2063); Short Creek (43.3204, −123.3315); Sutherlin Creek (43.3677, −123.2114); Unnamed (43.3285, −123.2016).

(9) South Fork Umpqua Subbasin 17100302—(i) *Jackson Creek Watershed 1710030202.* Outlet(s) = Jackson Creek (Lat 42.9695, Long −122.8795) upstream to endpoint(s) in: Beaver Creek (Lat 42.9084, Long −122.7924); Jackson Creek (Lat 42.9965, Long −122.6459); Ralph Creek (Lat 42.9744, Long −122.6976); Squaw Creek (Lat 42.9684, Long −122.6913);Tallow Creek (Lat 42.98814, Long −122.6965); Whiskey Creek (Lat 42.9593, Long −122.7262); Winters Creek (Lat 42.9380, Long −122.8271).

(ii) *Middle South Umpqua River Watershed 1710030203.* Outlet(s) = South Umpqua River (Lat 42.9272, Long −122.9504) upstream to endpoint(s) in: Boulder Creek (43.1056, −122.7379); Budd Creek (43.0506, −122.8185); Deadman Creek (43.0049, −122.8967); Dompier Creek (42.9553, −122.9166); Dumont Creek (43.0719, −122.8224); Francis Creek (43.0202, −122.8231); South Umpqua River (43.0481, −122.6998); Sam Creek (43.0037, −122.8412); Slick Creek (43.0986, −122.7867).

(iii) Elk Creek/South Umpqua Watershed 1710030204. Outlet(s) = Elk Creek (Lat 42.9272, Long −122.9504) upstream to endpoint(s) in: Brownie Creek (Lat 42.8304, Long −122.8746); Callahan Creek (Lat 42.8778, Long −122.9609); Camp Creek (Lat 42.8667, Long −122.8958); Dixon Creek (Lat 42.8931, Long −122.9152); Drew Creek (Lat 42.8682, Long −122.9358); Flat Creek (Lat 42.8294, Long −122.8250); Joe Hall Creek (Lat 42.8756, Long −122.8202); Tom Creek (Lat 42.8389, Long −122.8959).

(iv) *South Umpqua River Watershed 1710030205.* Outlet(s) = South Umpqua River (Lat 42.9476, Long −123.3368) upstream to endpoint(s) in: Alder Creek (42.9109, −123.2991); Canyon Creek (42.8798, −123.2410); Canyon Creek, West Fork (42.8757, −123.2734); Canyon Creek, West Fork, Trib A (42.8834, −123.2947); Coffee Creek (42.9416, −122.9993); Comer Brook (42.9082, −123.2908); Days Creek (43.0539, −123.0012); Days Creek, Trib 1 (43.0351, −123.0532); Doe Hollow (42.9805, −123.0812); Fate Creek (42.9943, −123.1028); Green Gulch (43.0040, −123.1276); Hatchet Creek

(42.9251, −122.9757); Jordan Creek (42.9224, −123.3086); Lavadoure Creek (42.9545, −123.1049); Lick Creek (42.9213, −123.0261); May Creek (43.0153, −123.0725); Morgan Creek (42.9635, −123.2409); O'Shea Creek (42.9256, −123.2486); Perdue Creek (43.0038, −123.1192); Poole Creek (42.9321, −123.1106); Poole Creek, East Fork (42.9147, −123.0956); South Umpqua River (42.9272, −122.9504); Shively Creek (42.8888, −123.1635); Shively Creek, East Fork (42.8793, −123.1194); Small Creek (42.9631, −123.2519); St. John Creek (42.9598, −123.0514); Stinger Gulch Creek (42.9950, −123.1851); Stouts Creek, East Fork (42.9090, −123.0424); Stouts Creek, West Fork (42.8531, −123.0167); Sweat Creek (42.9293, −123.1899); Wood Creek (43.0048, −123.1486).

(v) *Middle Cow Creek Watershed 1710030207.* Outlet(s) = Cow Creek (Lat 42.8114, Long −123.5947) upstream to endpoint(s) in: Bear Creek (42.8045, −123.3635); Booth Gulch (42.7804, −123.2282); Bull Run Creek (42.7555, −123.2366); Clear Creek (42.8218, −123.2610); Cow Creek (42.8487, −123.1780); Dads Creek (42.7650, −123.5401); East Fork Whitehorse Creek (42.7925, −123.1448); Fortune Branch (42.8051, −123.2971); Hogum Creek (42.7574, −123.1853); Lawson Creek (42.7896, −123.3752); Little Bull Run Creek (42.7532, −123.2479); McCullough Creek (42.7951, −123.4421); Mynatt Creek (42.8034, −123.2828); Panther Creek (42.7409, −123.4990); Perkins Creek (42.7331, −123.4997); Quines Creek (42.7278, −123.2396); Rattlesnake Creek (42.7106, −123.4774); Riffle Creek (42.7575, −123.6260); Section Creek (42.7300, −123.4373); Skull Creek (42.7527, −123.5779); Starveout Creek (42.7541, −123.1953); Stevens Creek (42.7255, −123.4835); Susan Creek (42.8035, −123.5762); Swamp Creek (42.7616, −123.3518); Tennessee Gulch (42.7265, −123.2591); Totten Creek (42.7448, −123.4610); Unnamed (42.7964, −123.4200); Unnamed (42.8101, −123.3150); Whitehorse Creek (42.7772, −123.1532); Wildcat Creek (42.7738, −123.2378); Windy Creek (42.8221, −123.3296); Wood Creek (42.8141, −123.4111); Woodford Creek (42.7458, −123.3180).

(vi) *West Fork Cow Creek Watershed 1710030208.* Outlet(s) = West Fork Cow Creek (Lat 42.8118, Long −123.6006) upstream to endpoint(s) in: Bear Creek (42.7662, −123.6741); Bobby Creek (42.8199, −123.7196); Elk Valley Creek (42.8681, −123.7133); Elk Valley Creek, East Fork (42.8698, −123.6812); Goat Trail Creek (42.8002, −123.6828); Gold Mountain Creek (42.8639, −123.7787); No Sweat Creek (42.8024, −123.7081); Panther Creek (42.8596, −123.7506); Slaughter Pen Creek (42.8224, −123.6565); Sweat Creek (42.8018, −123.6995); Walker Creek (42.8228, −123.7614); Wallace Creek (42.8311, −123.7696); West Fork Cow Creek (42.8329, −123.7733).

(vii) *Lower Cow Creek Watershed 1710030209.* Outlet(s) = Cow Creek (Lat 42.9476, Long −123.3368) upstream to endpoint(s) in: Ash Creek (42.9052, −123.3385); Boulder Creek (42.8607, −123.5494); Brush Creek (42.8526, −123.4369); Buck Creek (42.8093, −123.4979); Buck Creek (42.9347, −123.5163); Cattle Creek (42.8751, −123.5374); Cedar Gulch (42.8457, −123.5038); Council Creek (42.8929, −123.4366); Cow Creek (42.8114, −123.5947); Darby Creek (42.8553, −123.6123); Doe Creek (42.9333, −123.5057); Gravel Creek (42.8596, −123.4598); Iron Mountain Creek (42.9035, −123.5175); Island Creek (42.8957, −123.4749); Jerry Creek (42.9517, −123.4009); Little Dads Creek (42.8902, −123.5655); Martin Creek (42.8080, −123.4763); Middle Creek, South Fork (42.8298, −123.3870); Panther Creek (42.8417, −123.4492); Peavine Creek (42.8275, −123.4610); Russell Creek (42.9094, −123.3797); Salt Creek (42.9462, −123.4830); Shoestring Creek (42.9221, −123.3613); Smith Creek (42.8489, −123.4765); Smith Creek (42.9236, −123.5482); Table Creek (42.9114, −123.5695); Union Creek (42.8769, −123.5853); Unnamed (42.8891, −123.4080).

(viii) *Middle South Umpqua River Watershed 1710030210.* Outlet(s) = South Umpqua River (Lat 43.1172, Long −123.4273) upstream to endpoint(s) in: Adams Creek (43.0724, −123.4776); Barrett Creek (43.0145, −123.4451); Clark Brook (43.0980, −123.2897); East Willis Creek (43.0151, −123.3845); Judd Creek (42.9852, −123.4060); Kent Creek (43.0490, −123.4792); Lane Creek (42.9704, −123.4001); Porter Creek (43.0444, −123.4597); Rice Creek (43.0181, −123.4779); Richardson Creek (43.0766, −123.2881); South Umpqua River (42.9476, −123.3368); Squaw Creek (43.0815, −123.4688); Van Dine Creek (43.0326, −123.3473); West Willis Creek (43.0172, −123.4355).

(ix) *Myrtle Creek Watershed 1710030211.* Outlet(s) = North Myrtle Creek (Lat 43.0231, Long −123.2951) upstream to endpoint(s) in: Ben Branch Creek (43.0544, −123.1618); Big Lick (43.0778, −123.2175); Bilger Creek (43.1118, −123.2372); Buck Fork Creek (43.1415, −123.0831); Cedar Hollow (43.0096, −123.2297); Frozen Creek (43.1089, −123.1929); Frozen Creek, Left Fork (43.1157, −123.2306); Harrison Young Brook (43.0610, −123.2850); Lally Creek (43.0890, −123.0597); Lee Creek (43.1333, −123.1477); Letitia Creek (43.0710, −123.0907); Little Lick (43.0492, −123.2234); Long Wiley Creek (43.0584, −123.1067); Louis Creek (43.1165, −123.0783); North Myrtle Creek (43.1486, −123.1219); Riser Creek (43.1276, −123.0703); Rock Creek (43.0729, −123.2620); South Myrtle Creek (43.0850, −123.0103); School Hollow (43.0563, −123.1753); Short Wiley Creek (43.0589, −123.1158); Slide Creek (43.1110, −123.1078); Unnamed (43.1138, −123.1721); Weaver Creek (43.1102, −123.0576).

(x) *Ollala Creek/Lookingglass Watershed 1710030212.* Outlet(s) = Lookingglass Creek (Lat 43.1172, Long −123.4273) upstream to endpoint(s) in: Archambeau Creek (43.2070, −123.5329); Bear Creek (43.1233, −123.6382); Berry Creek (43.0404, −123.5543); Bushnell Creek (43.0183, −123.5289); Byron Creek, East Fork (43.0192, −123.4939); Byron Creek, North Fork (43.0326, −123.4792); Coarse Gold Creek (43.0291, −123.5742); Flournoy Creek (43.2227, −123.5560); Little Muley Creek (43.0950, −123.6247); Lookingglass Creek (43.1597, −123.6015); McNabb Creek (43.0545, −123.4984); Muns Creek (43.0880, −123.6333); Olalla Creek (42.9695, −123.5914); Perron Creek (43.0960, −123.4904); Porter Creek (43.1381, −123.5569); Sheilds Creek (43.0640, −123.6189); Tenmile Creek (43.1482, −123.6537); Tenmile Creek, North Fork (43.1260, −123.6069); Thompson Creek (42.9860, −123.5140); Willingham Creek (42.9600, −123.5814).

(xi) *Lower South Umpqua River Watershed 1710030213.* Outlet(s) = South Umpqua River (Lat 43.2682, Long −123.4448) upstream to endpoint(s) in: Callahan Creek (43.2291, −123.5355); Damotta Brook (43.2030, −123.2987); Deer Creek, North Fork (43.2166, −123.1437); Deer Creek, South Fork (43.1875, −123.1722); Deer Creek, South Fork, Trib 1 (43.1576, −123.2393); Deer Creek, South Fork, Middle Fork (43.1625, −123.1413); Doerner Creek (43.2370, −123.5153); Elgarose Creek (43.2747, −123.5105); Marsters Creek (43.1584, −123.4489); Melton Creek (43.1294, −123.2173); Roberts Creek (43.1124, −123.2831); South Umpqua River (43.1172, −123.4273); Stockel Creek (43.2205, −123.4392); Tucker Creek (43.1238, −123.2378); Unnamed (43.2184, −123.1709); Willow Creek (43.2543, −123.5143).

(10) Umpqua Subbasin 17100303(i) *Upper Umpqua River Watershed 1710030301.* Outlet(s) = Umpqua River

(Lat 43.6329, Long −123.5662) upstream to endpoint(s) in: Bear Creek (43.3202, −123.6118); Bear Creek (43.5436, −123.4481); Bottle Creek (43.4060, −123.5043); Brads Creek (43.5852, −123.4651); Camp Creek (43.2969, −123.5361); Case Knife Creek (43.4288, −123.6665); Cedar Creek (43.5360, −123.5969); Cougar Creek (43.3524, −123.6166); Doe Creek (43.5311, −123.4259); Fitzpatrick Creek (43.5819, −123.6308); Galagher Canyon (43.4708, −123.4394); Heddin Creek (43.5909, −123.6466); Hubbard Creek (43.2526, −123.5544); Leonard Creek (43.4448, −123.5402); Little Canyon Creek (43.4554, −123.4560); Little Wolf Creek (43.4232, −123.6633); Little Wolf Creek, Trib D (43.4052, −123.6477); Lost Creek (43.4355, −123.4902); Martin Creek (43.5539, −123.4633); McGee Creek (43.5125, −123.5632); Mehl Creek (43.5491, −123.6541); Mill Creek (43.3178, −123.5095); Miner Creek (43.4518, −123.6764); Panther Canyon (43.5541, −123.3484); Porter Creek (43.4348, −123.5530); Rader Creek (43.5203, −123.6517); Rader Creek, Trib A (43.4912, −123.5726); Umpqua River (43.2682, −123.4448); Unnamed (43.5781, −123.6170); Unnamed (43.5630, −123.6080); Unnamed (43.4011, −123.6474); Unnamed (43.4119, −123.6172); Unnamed (43.4212, −123.6398); Unnamed (43.4640, −123.6734); Unnamed (43.4940, −123.6166); Unnamed (43.5765, −123.4710); Waggoner Creek (43.5282, −123.6072); Whiskey Camp Creek (43.4587, −123.6755); Williams Creek (43.5952, −123.5222); Wolf Creek (43.4707, −123.6655).

(ii) *Calapooya Creek Watershed 1710030302.* Outlet(s) = Calapooya Creek (Lat 43.3658, Long −123.4674) upstream to endpoint(s) in: Bachelor Creek (43.5480, −123.2062); Banks Creek (43.3631, −123.1755); Beaty Creek (43.4406, −123.0392); Boyd Creek (43.4957, −123.1573); Brome Creek (43.4016, −123.0490); Burke Creek (43.3987, −123.4463); Buzzard Roost Creek (43.4584, −123.0990); Cabin Creek (43.5421, −123.3294); Calapooya Creek, North Fork (43.4867, −123.0280); Coon Creek (43.4218, −123.4349); Coon Creek (43.5245, −123.0429); Dodge Canyon Creek (43.4362, −123.4420); Driver Valley Creek (43.4327, −123.1960); Field Creek (43.4043, −123.0917); Gassy Creek (43.3862, −123.1133); Gilbreath Creek (43.4218, −123.0931); Gossett Creek (43.4970, −123.1045); Haney Creek (43.4763, −123.1086); Hinkle Creek (43.4230, −123.0382); Hog Creek (43.4767, −123.2516); Jeffers Creek (43.4522, −123.1047); Long Valley Creek (43.4474, −123.1460); Middle Fork South Fork Calapooya Creek (43.4772, −122.9952); Markam Creek (43.3751, −123.1479); Marsh Creek (43.5223, −123.3348); Mill Creek (43.4927, −123.1315); Norton Creek (43.5046, −123.3736); Pine Tree Creek (43.4179, −123.0688); Pollock Creek (43.5326, −123.2685); Salt Creek (43.5161, −123.2504); Salt Lick Creek (43.4510, −123.1168); Slide Creek (43.3926, −123.0919); Timothy Creek (43.4862, −123.0896); Unnamed (43.4469, −123.4268); Unnamed (43.4481, −123.4283); Unnamed (43.4483, −123.4134); Unnamed (43.4658, −122.9899); Unnamed (43.4707, −122.9896); Unnamed (43.4908, −123.0703); Unnamed (43.5173, −123.0564); Wheeler Canyon (43.4840, −123.3631); White Creek (43.4637, −123.0451); Williams Creek (43.4703, −123.4096).

(iii) *Elk Creek Watershed 1710030303.* Outlet(s) = Elk Creek (Lat 43.6329, Long −123.5662) upstream to endpoint(s) in: Adams Creek (43.5860, −123.2202); Allen Creek (43.6375, −123.3731); Andrews Creek (43.5837, −123.3920); Asker Creek (43.6290, −123.2668); Bear Creek (43.6195, −123.3703); Bear Creek (43.7119, −123.1757); Bennet Creek (43.6158, −123.1558); Big Tom Folley Creek (43.7293, −123.4053); Big Tom Folley Creek, North Fork (43.7393, −123.4917); Big Tom Folley Creek, Trib A (43.7231, −123.4465); Billy Creek, East Fork (43.5880, −123.3263); Billy Creek, South Fork (43.5725, −123.3603); Blue Hole Creek (43.5677, −123.4405); Brush Creek (43.5662, −123.4140); Buck Creek (43.6981, −123.1818); Cowan Creek (43.5915, −123.2615); Cox Creek (43.6356, −123.1794); Curtis Creek (43.6839, −123.1734); Dodge Canyon (43.6225, −123.2509); Elk Creek (43.5097, −123.1620); Ellenburg Creek (43.7378, −123.3296); Fitch Creek (43.6986, −123.3152); Five Point Canyon (43.5707, −123.3526); Flagler Creek (43.5729, −123.3382); Green Creek (43.6851, −123.4688); Green Ridge Creek (43.5920, −123.3958); Halo Creek (43.5990, −123.2658); Hancock Creek (43.6314, −123.5188); Hanlon Creek (43.6190, −123.2785); Hardscrabble Creek (43.7111, −123.3517); Huntington Creek (43.5882, −123.2808); Jack Creek (43.7071, −123.3819); Johnny Creek (43.7083, −123.3972); Johnson Creek (43.6830, −123.2715); Lancaster Creek (43.6442, −123.4361); Lane Creek (43.5483, −123.1221); Lees Creek (43.6610, −123.1888); Little Sand Creek (43.7655, −123.2778); Little Tom Folley Creek (43.6959, −123.5393); McClintock Creek (43.6664, −123.2703); Parker Creek (43.6823, −123.4178); Pass Creek (43.7527, −123.1528); Pheasant Creek (43.7758, −123.2099); Rock Creek (43.7759, −123.2730); Saddle Butte Creek (43.7214, −123.5219); Salt Creek (43.6796, −123.2213); Sand Creek (43.7709, −123.2912); Shingle Mill Creek (43.5314, −123.1308); Simpson Creek (43.6629, −123.2553); Smith Creek (43.6851, −123.3179); Squaw Creek (43.6010, −123.4284); Taylor Creek (43.7642, −123.2712); Thief Creek (43.6527, −123.1459); Thistleburn Creek (43.6313, −123.4332); Unnamed (43.5851, −123.3101); Walker Creek (43.5922, −123.1707); Ward Creek (43.7486, −123.2023); Wehmeyer Creek (43.6823, −123.2404); Wilson Creek (43.5699, −123.2681); Wise Creek (43.6679, −123.2772); Yoncalla Creek (43.5563, −123.2833).

(iv) *Middle Umpqua River Watershed 1710030304.* Outlet(s) = Umpqua River (Lat 43.6556, Long −123.8752) upstream to endpoint(s) in: Burchard Creek (43.6680, −123.7520); Butler Creek (43.6325, −123.6867); Cedar Creek (43.7027, −123.6451); House Creek (43.7107, −123.6378); Little Mill Creek (43.6729, −123.8252); Little Paradise Creek (43.6981, −123.5630); Paradise Creek (43.7301, −123.5738); Patterson Creek (43.7076, −123.6977); Purdy Creek (43.6895, −123.7712); Sawyer Creek (43.6027, −123.6717); Scott Creek (43.6885, −123.6966); Umpqua River (43.6329, −123.5662); Unnamed (43.6011, −123.7084); Unnamed (43.5998, −123.6803); Unnamed (43.6143, −123.6674); Unnamed (43.6453, −123.7619); Unnamed (43.6461, −123.8064); Unnamed (43.6923, −123.7534); Unnamed (43.7068, −123.6109); Unnamed (43.7084, −123.7156); Unnamed (43.7098, −123.6300); Unnamed (43.7274, −123.6026); Weatherly Creek (43.7205, −123.6680); Wells Creek (43.6859, −123.7946).

(v) *Upper Smith River Watershed 1710030306.* Outlet(s) = Smith River (Lat 43.7968, Long −123.7565) upstream to endpoint(s) in: Amberson Creek (43.7787, −123.4944); Argue Creek (43.7656, −123.6959); Beaver Creek (43.7865, −123.6949); Beaver Creek (43.8081, −123.4041); Big Creek (43.7372, −123.7112); Blackwell Creek (43.8145, −123.7460); Blind Creek (43.7518, −123.6551); Bum Creek (43.8044, −123.5802); Carpenter Creek (43.7947, −123.7258); Clabber Creek (43.7919, −123.5878); Clearwater Creek (43.8138, −123.7375); Cleghorn Creek (43.7508, −123.4997); Clevenger Creek (43.7826, −123.4087); Coldwater Creek (43.8316, −123.7232); Deer Creek (43.8109, −123.5362); Devils Club Creek

(43.7916, −123.6148); Elk Creek (43.8004, −123.4347); Halfway Creek (43.7412, −123.5112); Hall Creek (43.7732, −123.3836); Haney Creek (43.8355, −123.5006); Hardenbrook Creek (43.7943, −123.5660); Hefty Creek (43.7881, −123.3954); Herb Creek (43.8661, −123.6782); Jeff Creek (43.8079, −123.6033); Marsh Creek (43.7831, −123.6185); Mosetown Creek (43.7326, −123.6613); Mosetown Creek, East Fork (43.7185, −123.6433); North Sister Creek (43.8492, −123.5771); Panther Creek (43.8295, −123.4464); Pearl Creek (43.8263, −123.5350); Peterson Creek (43.7575, −123.3947); Plank Creek (43.7635, −123.3980); Redford Creek (43.7878, −123.3520); Rock Creek (43.7733, −123.6222); Russell Creek (43.8538, −123.6971); South Sister Creek (43.8366, −123.5611); Salmonberry Creek (43.8085, −123.4482); Scare Creek (43.7631, −123.7260); Sleezer Creek (43.7535, −123.3711); Slideout Creek (43.7831, −123.5685); Smith River, Little South Fork (43.7392, −123.4583); Smith River, South Fork (43.7345, −123.3843); Smith River (43.7529, −123.3310); Spring Creek (43.7570, −123.3276); Summit Creek (43.7985, −123.3487); Sweden Creek (43.8618, −123.6468); Tip Davis Creek (43.7739, −123.3301); Twin Sister Creek (43.8348, −123.7168); Unnamed (43.7234, −123.6308); Unnamed (43.7397, −123.6984); Unnamed (43.7433, −123.4673); Unnamed (43.7492, −123.6911); Unnamed (43.7495, −123.5832); Unnamed (43.7527, −123.5210); Unnamed (43.7533, −123.7046); Unnamed (43.7541, −123.4805); Unnamed (43.7708, −123.4819); Unnamed (43.7726, −123.5039); Unnamed (43.7748, −123.6044); Unnamed (43.7775, −123.6927); Unnamed (43.7830, −123.5900); Unnamed (43.7921, −123.6335); Unnamed (43.7955, −123.7013); Unnamed (43.7993, −123.6171); Unnamed (43.8020, −123.6739); Unnamed (43.8034, −123.6959); Unnamed (43.8133, −123.5893); Unnamed (43.8197, −123.4827); Unnamed (43.8263, −123.5810); Unnamed (43.8360, −123.6951); Unnamed (43.8519, −123.5910); Unnamed (43.8535, −123.6357); Unnamed (43.8541, −123.6155); Unnamed (43.8585, −123.6867); Upper Johnson Creek (43.7509, −123.5426); West Fork Halfway Creek (43.7421, −123.6119); Yellow Creek (43.8193, −123.5545).

(vi) *Lower Smith River Watershed 1710030307.* Outlet(s) = Smith River (Lat 43.7115, Long −124.0807) upstream to endpoint(s) in: Bear Creek (43.8087, −123.8202); Beaver Creek (43.8983, −123.7559); Black Creek (43.7544, −123.9967); Brainard Creek (43.7448, −124.0105); Buck Creek (43.7719, −123.7823); Cassady Creek (43.7578, −123.9744); Cedar Creek (43.8541, −123.8562); Chapman Creek (43.8181, −123.9380); Coon Creek (43.8495, −123.7857); Crane Creek (43.8592, −123.7739); Edmonds Creek (43.8257, −123.9000); Eslick Creek (43.8153, −123.9894); Eslick Creek, East Fork (43.8082, −123.9583); Franz Creek (43.7542, −124.1006); Frarey Creek (43.7683, −124.0615); Georgia Creek (43.8373, −123.8911); Gold Creek (43.9002, −123.7470); Harlan Creek (43.8635, −123.9319); Holden Creek (43.7901, −124.0178); Hudson Slough (43.7725, −124.0736); Johnson Creek (43.8291, −123.9582); Johnson Creek (43.8480, −123.8209); Joyce Creek (43.7892, −124.0356); Joyce Creek, West Fork (43.7708, −124.0457); Kentucky Creek (43.9313, −123.8153); Middle Fork of North Fork Smith River (43.8780, −123.7687); Moore Creek (43.8523, −123.8931); Moore Creek (43.8661, −123.7558); Murphy Creek (43.7449, −123.9527); Noel Creek (43.7989, −124.0109); Otter Creek (43.7216, −123.9626); Otter Creek, North Fork (43.7348, −123.9597); Paxton Creek (43.8847, −123.9004); Peach Creek (43.8963, −123.8599); Perkins Creek (43.7362, −123.9151); Railroad Creek (43.8086, −123.8998); Smith River, West Fork (43.9102, −123.7073); Smith River (43.7968, −123.7565); Spencer Creek (43.8429, −123.8321); Spencer Creek, West Fork (43.8321, −123.8685); Sulphur Creek (43.8512, −123.9422); Unnamed (43.7031, −123.7463); Unnamed (43.7106, −123.7666); Unnamed (43.7203, −123.7601); Unnamed (43.7267, −123.7396); Unnamed (43.7286, −123.7798); Unnamed (43.7322, −124.0585); Unnamed (43.7325, −123.7337); Unnamed (43.7470, −123.7416); Unnamed (43.7470, −123.7711); Unnamed (43.7569, −124.0844); Unnamed (43.7606, −124.0853); Unnamed (43.7623, −124.0753); Unnamed (43.7669, −124.0766); Unnamed (43.7734, −124.0674); Unnamed (43.7855, −124.0076); Unnamed (43.7877, −123.9936); Unnamed (43.8129, −123.9743); Unnamed (43.8212, −123.8777); Unnamed (43.8258, −123.8192); Unnamed (43.8375, −123.9631); Unnamed (43.8424, −123.7925); Unnamed (43.8437, −123.7989); Unnamed (43.8601, −123.7630); Unnamed (43.8603, −123.8155); Unnamed (43.8655, −123.8489); Unnamed (43.8661, −123.9136); Unnamed (43.8688, −123.7994); Unnamed (43.8831, −123.8534); Unnamed (43.8883, −123.7157); Unnamed (43.8906, −123.7759); Unnamed (43.8916, −123.8765); Unnamed (43.8922, −123.8144); Unnamed (43.8953, −123.8772); Unnamed (43.8980, −123.7865); Unnamed (43.8997, −123.7993); Unnamed (43.8998, −123.7197); Unnamed (43.9015, −123.8386); Unnamed (43.9015, −123.8949); Unnamed (43.9023, −123.8241); Unnamed (43.9048, −123.8316); Unnamed (43.9075, −123.7208); Unnamed (43.9079, −123.8263); Vincent Creek (43.7035, −123.7882); Wassen Creek (43.7419, −123.8905); West Branch North Fork Smith River (43.9113, −123.8958).

(vii) *Lower Umpqua River Watershed 1710030308.* Outlet(s) = Umpqua River (Lat 43.6696, Long −124.2025) upstream to endpoint(s) in: Alder Creek (43.6310, −124.0483); Bear Creek (43.7053, −123.9529); Butler Creek (43.7157, −124.0059); Charlotte Creek (43.6320, −123.9307); Dean Creek (43.6214, −123.9740); Dry Creek (43.6369, −124.0595); Franklin Creek (43.6850, −123.8659); Hakki Creek (43.6711, −124.0161); Indian Charlie Creek (43.6611, −123.9404); Johnson Creek (43.6711, −123.9760); Koepke Slough (43.6909, −124.0294); Little Franklin Creek (43.6853, −123.8863); Luder Creek (43.6423, −123.9046); Miller Creek (43.6528, −124.0140); Oar Creek (43.6620, −124.0289); Providence Creek (43.7083, −124.1289); Scholfield Creek (43.6253, −124.0112); Umpqua River (43.6556, −123.8752); Unnamed (43.6359, −123.9572); Unnamed (43.6805, −124.1146); Unnamed (43.6904, −124.0506); Unnamed (43.6940, −124.0340); Unnamed (43.7069, −123.9824); Unnamed (43.7242, −123.9369); Winchester Creek (43.6657, −124.1247); Wind Creek, South Fork (43.6346, −124.0897).

(11) Coos Subbasin 17100304—(i) *South Fork Coos Watershed 1710030401.* Outlet(s) = South Fork Coos (Lat 43.3905, Long −123.9634) upstream to endpoint(s) in: Beaver Slide Creek (43.2728, −123.8472); Bottom Creek (43.3751, −123.7065); Bottom Creek, North Fork (43.3896, −123.7264); Buck Creek (43.2476, −123.8023); Burnt Creek (43.2567, −123.7834); Cedar Creek (43.3388, −123.6303); Cedar Creek, Trib E (43.3423, −123.6749); Cedar Creek, Trib F (43.3330, −123.6523); Coal Creek (43.3426, −123.8685); Eight River Creek (43.2638, −123.8568); Fall Creek (43.2535, −123.7106); Fall Creek (43.4106, −123.7512); Fivemile Creek

(43.2341, −123.6307); Gods Thumb Creek (43.3440, −123.7013); Gooseberry Creek (43.2452, −123.7081); Hatcher Creek (43.3021, −123.8370); Hog Ranch Creek (43.2754, −123.8125); Lake Creek (43.2971, −123.6354); Little Cow Creek (43.1886, −123.6133); Lost Creek (43.2325, −123.5769); Lost Creek, Trib A (43.2224, −123.5961); Mink Creek (43.3068, −123.8515); Panther Creek (43.2593, −123.6401); Shotgun Creek (43.2920, −123.7623); Susan Creek (43.2720, −123.7654); Tioga Creek (43.2110, −123.7786); Unnamed (43.2209, −123.7789); Unnamed (43.2305, −123.8360); Unnamed (43.2364, −123.7818); Unnamed (43.2548, −123.8569); Unnamed (43.2713, −123.8320); Unnamed (43.2902, −123.6662); Unnamed (43.3168, −123.6491); Unnamed (43.3692, −123.8320); Unnamed (43.3698, −123.8321); Unnamed (43.3806, −123.8327); Unnamed (43.3846, −123.8058); Unnamed (43.3887, −123.7927); Unnamed (43.3651, −123.7073); Wilson Creek (43.2083, −123.6691).

(ii) *Millicoma River Watershed 1710030402*. Outlet(s) = West Fork Millicoma River (Lat 43.4242, Long −124.0288) upstream to endpoint(s) in: Bealah Creek (43.4271, −123.8445); Buck Creek (43.5659, −123.9765); Cougar Creek (43.5983, −123.8788); Crane Creek (43.5545, −123.9287); Dagget Creek (43.4862, −124.0557); Darius Creek (43.4741, −123.9407); Deer Creek (43.6207, −123.9616); Deer Creek, Trib A (43.6100, −123.9761); Deer Creek, Trib B (43.6191, −123.9482); Devils Elbow Creek (43.4439, −124.0608); East Fork Millicoma River (43.4204, −123.8330); Elk Creek (43.5441, −123.9175); Fish Creek (43.6015, −123.8968); Fox Creek (43.4189, −123.9459); Glenn Creek (43.4799, −123.9325); Hidden Creek (43.5646, −123.9235); Hodges Creek (43.4348, −123.9889); Joes Creek (43.5838, −123.9787); Kelly Creek (43.5948, −123.9036); Knife Creek (43.6163, −123.9310); Little Matson Creek (43.4375, −123.8890); Marlow Creek (43.4779, −123.9815); Matson Creek (43.4489, −123.9191); Otter Creek (43.5935, −123.9729); Panther Creek (43.5619, −123.9038); Rainy Creek (43.4293, −124.0400); Rodine Creek (43.4434, −123.9789); Schumacher Creek (43.4842, −124.0380); Totten Creek (43.4869, −124.0457); Trout Creek (43.5398, −123.9814); Unnamed (43.4686, −124.0143); Unnamed (43.5156, −123.9366); Unnamed (43.5396, −123.9373); Unnamed (43.5450, −123.9305); West Fork Millicoma River (43.5617, −123.8788).

(iii) *Lakeside Frontal Watershed 1710030403*. Outlet(s) = Tenmile Creek (43.5618, −124.2308) upstream to endpoint(s) in: Adams Creek (43.5382, −124.1081); Alder Creek (43.6012, −124.0272); Alder Gulch (43.5892, −124.0665); Benson Creek (43.5813, −124.0086); Big Creek (43.6085, −124.0128); Blacks Creek (43.6365, −124.1188); Clear Creek (43.6040, −124.1871); Hatchery Creek (43.5275, −124.0761); Johnson Creek (43.5410, −124.0018); Murphy Creek (43.6243, −124.0534); Noble Creek (43.5897, −124.0347); Parker Creek (43.6471, −124.1246); Roberts Creek (43.5557, −124.0264); Saunders Creek (43.5417, −124.2136); Shutter Creek (43.5252, −124.1398); Swamp Creek (43.5550, −124.1948); Unnamed (43.5203, −124.0294); Unnamed (43.6302, −124.1460); Unnamed (43.6353, −124.1411); Unnamed (43.6369, −124.1515); Unnamed (43.6466, −124.1511); Unnamed (43.5081, −124.0382); Unnamed (43.6353, −124.16770; Wilkins Creek (43.6304, −124.0819); Winter Creek (43.6533, −124.1333).

(iv) *Coos Bay Watershed 1710030404*. Outlet(s) = Big Creek (Lat 43.3326, Long −124.3739); Coos Bay (43.3544, −124.3384) upstream to endpoint(s) in: Bear Creek (43.5048, −124.1059); Bessey Creek (43.3844, −124.0253); Big Creek (43.2834, −124.3374), Big Creek (43.3980, −123.9396); Big Creek, Trib A (43.2999, −124.3711); Big Creek, Trib B (43.2854, −124.3570); Blossom Gulch (43.3598, −124.2410); Boatman Gulch (43.3445, −124.2483); Boone Creek (43.2864, −124.1762); Cardwell Creek (43.2793, −124.1277); Catching Creek (43.2513, −124.1586); Coalbank Creek (43.3154, −124.2503); Coos Bay (43.3566, −124.1592); Daniels Creek (43.3038, −124.0725); Davis Creek (43.2610, −124.2633); Day Creek (43.3129, −124.2888); Deton Creek (43.4249, −124.0771); Echo Creek (43.3797, −124.1529); Elliot Creek (43.3037, −124.2670); Farley Creek (43.3146, −124.3415); Ferry Creek (43.2628, −124.1728); Goat Creek (43.2700, −124.2109); Haywood Creek (43.3067, −124.3419); Hendrickson Creek (43.3907, −124.0594); Isthmus Slough (43.2622, −124.2049); Joe Ney Slough (43.3382, −124.2958); John B Creek (43.2607, −124.2814); Johnson Creek (43.4043, −124.1389); Kentuck Creek (43.4556, −124.0894); Larson Creek (43.4930, −124.0764); Laxstrom Gulch (43.3372, −124.1350); Lillian Creek (43.3550, −124.1330); Mart Davis Creek (43.3911, −124.0927); Matson Creek (43.3011, −124.1161); McKnight Creek (43.3841, −123.9991); Mettman Creek (43.4574, −124.1293); Millicoma River (43.4242, −124.0288); Monkey Ranch Gulch (43.3392, −124.1458); Morgan Creek (43.3460, −124.0318); North Slough (43.5032, −124.1408); Noble Creek (43.2387, −124.1665); Packard Creek (43.4058, −124.0211); Palouse Creek (43.5123, −124.0667); Panther Creek (43.2733, −124.1222); Pony Slough (43.4078, −124.2307); Rogers Creek (43.3831, −124.0370); Ross Slough (43.3027, −124.1781); Salmon Creek (43.3618, −123.9816); Seaman Creek (43.3634, −124.0111); Seelander Creek (43.2872, −124.1176); Shinglehouse Slough (43.3154, −124.2225); Smith Creek (43.3579, −124.1051); Snedden Creek (43.3372, −124.2177); Southport Slough (43.2981, −124.2194); Stock Slough (43.3277, −124.1195); Storey Creek (43.3238, −124.2969); Sullivan Creek (43.4718, −124.0872); Talbott Creek (43.2839, −124.2954); Theodore Johnson Creek (43.2756, −124.3457); Unnamed (43.5200, −124.1812); Unnamed (43.2274, −124.3236); Unnamed (43.2607, −124.2984); Unnamed (43.2772, −124.3246); Unnamed (43.2776, −124.3148); Unnamed (43.2832, −124.1532); Unnamed (43.2888, −124.1962); Unnamed (43.2893, −124.3406); Unnamed (43.2894, −124.2034); Unnamed (43.2914, −124.2917); Unnamed (43.2942, −124.1027); Unnamed (43.2984, −124.2847); Unnamed (43.3001, −124.3022); Unnamed (43.3034, −124.2001); Unnamed (43.3051, −124.2031); Unnamed (43.3062, −124.2030); Unnamed (43.3066, −124.3674); Unnamed (43.3094, −124.1947); Unnamed (43.3129, −124.1208); Unnamed (43.3149, −124.1347); Unnamed (43.3149, −124.1358); Unnamed (43.3149, −124.1358); Unnamed (43.3169, −124.0638); Unnamed (43.3224, −124.2390); Unnamed (43.3356, −124.1542); Unnamed (43.3356, −124.1526); Unnamed (43.3357, −124.1510); Unnamed (43.3357, −124.1534); Unnamed (43.3368, −124.1509); Unnamed (43.3430, −124.2352); Unnamed (43.3571, −124.2372); Unnamed (43.3643, −124.0474); Unnamed (43.3741, −124.0577); Unnamed (43.4126, −124.0599); Unnamed (43.4203, −123.9824); Unnamed (43.4314, −124.0998); Unnamed (43.4516, −124.1023); Unnamed (43.4521, −124.1110); Unnamed (43.5345, −124.1946); Vogel Creek (43.3511, −124.1206); Wasson Creek (43.2688, −124.3368); Willanch Creek (43.4233, −124.1061); Willanch Creek,

Trib A (43.4032, −124.1169); Wilson Creek (43.2652, −124.1281); Winchester Creek (43.2145, −124.3116); Winchester Creek, Trib E (43.2463, −124.3067); Woodruff Creek (43.4206, −123.9746); Wren Smith Creek (43.3131, −124.0649).

(12) Coquille Subbasin 17100305—(i) *Middle Fork Coquille Watershed 1710030502*. Outlet(s) = Middle Fork Coquille River (Lat 43.0340, Long −124.1161) upstream to endpoint(s) in: Anderson Creek (43.0087, −123.9445); Axe Creek (43.0516, −123.9468); Bear Creek (43.0657, −123.9284); Belieu Creek (43.0293, −123.9470); Big Creek (43.0991, −123.8983); Brownson Creek (43.0879, −123.9583); Endicott Creek (43.0401, −124.0710); Fall Creek (43.0514, −123.9910); Indian Creek (43.0203, −124.0842); Little Rock Creek (42.9913, −123.8335); McMullen Creek (43.0220, −124.0366); Middle Fork Coquille River (42.9701, −123.7621); Myrtle Creek (42.9642, −124.0170); Rasler Creek (42.9518, −123.9643); Rock Creek (42.9200, −123.9073); Rock Creek (43.0029, −123.8440); Salmon Creek (43.0075, −124.0273); Sandy Creek (43.0796, −123.8517); Sandy Creek, Trib F (43.0526, −123.8736); Sheilds Creek (42.9184, −123.9219); Slater Creek (42.9358, −123.7958); Slide Creek (42.9957, −123.9040); Smith Creek (43.0566, −124.0337); Swamp Creek (43.0934, −123.9000); Unnamed (43.0016, −123.9550); Unnamed (43.0681, −123.9812); Unnamed (43.0810, −123.9892).

(ii) *Middle Main Coquille Watershed 1710030503*. Outlet(s) = South Fork Coquille River (Lat 43.0805, Long −124.1405) upstream to endpoint(s) in: Baker Creek (42.8913, −124.1297); Beaver Creek (42.9429, −124.0783); Catching Creek, Middle Fork (42.9913, −124.2331); Catching Creek, South Fork (42.9587, −124.2348); Coquille River, South Fork (42.8778, −124.0743); Cove Creek (43.0437, −124.2088); Dement Creek (42.9422, −124.2086); Gettys Creek (43.0028, −124.1988); Grants Creek (42.9730, −124.1041); Horse Hollow (43.0382, −124.1984); Knight Creek (43.0022, −124.2663); Koontz Creek (43.0111, −124.2505); Long Tom Creek (42.9342, −124.0992); Matheny Creek (43.0495, −124.1892); Mill Creek (42.9777, −124.1663); Rhoda Creek (43.0007, −124.1032); Roberts Creek (42.9748, −124.2385); Rowland Creek (42.9045, −124.1845); Russell Creek (42.9495, −124.1611); Unnamed (42.9684, −124.1033); Ward Creek (43.0429, −); 124.2358); Warner Creek (43.0196, −124.1187); Wildcat Creek (43.0277, −124.2225); Wolf Creek (43.0136, −124.2318); Woodward Creek (42.9023, −124.0658).

(iii) *East Fork Coquille Watershed 1710030504*. Outlet(s) = East Fork Coquille River (Lat 43.1065, Long −124.0761) upstream to endpoint(s) in: Bills Creek (43.1709, −123.9244); China Creek (43.1736, −123.9086); East Fork Coquille River (43.1476, −123.8936); Elk Creek (43.1312, −123.9621); Hantz Creek (43.1832, −123.9713); South Fork Elk Creek (43.1212, −123.9200); Steel Creek (43.1810, −123.9354); Unnamed (43.0908, −124.0361); Unnamed (43.0925, −124.0495); Unnamed (43.0976, −123.9705); Unnamed (43.1006, −124.0052); Unnamed (43.1071, −123.9163); Unnamed (43.1655, −123.9078); Unnamed (43.1725, −123.9881); Weekly Creek (43.0944, −124.0271); Yankee Run (43.1517, −124.0483); Yankee Run, Trib C (43.1626, −124.0162).

(iv) *North Fork Coquille Watershed 1710030505*. Outlet(s) = North Fork Coquille River (Lat 43.0805, Long −124.1405) upstream to endpoint(s) in: Alder Creek (43.2771, −123.9207); Blair Creek (43.1944, −124.1121); Cherry Creek, North Fork (43.2192, −123.9124); Cherry Creek, South Fork (43.2154, −123.9353); Coak Creek (43.2270, −124.0324); Coquille River, Little North Fork (43.2988, −123.9410); Coquille River, North Fork (43.2974, −123.8791); Coquille River, North Fork, Trib E (43.1881, −124.0764); Coquille River, North Fork, Trib I (43.2932, −123.8920); Coquille River, North Fork, Trib Y (43.3428, −123.9678); Evans Creek (43.2868, −124.0561); Fruin Creek (43.3016, −123.9198); Garage Creek (43.1508, −124.1020); Giles Creek (43.3129, −124.0337); Honcho Creek (43.2628, −123.8954); Hudson Creek (43.2755, −123.9604); Jerusalem Creek (43.1844, −124.0539); Johns Creek (43.0760, −124.0498); Little Cherry Creek (43.2007, −123.9594); Llewellyn Creek (43.1034,124.1063); Llewellyn Creek, Trib A (43.0969, −124.0995); Lost Creek (43.1768, −124.1047); Lost Creek (43.2451, −123.9745); Mast Creek (43.2264, −124.0207); Middle Creek (43.2332, −123.8726); Moon Creek (43.2902, −123.9493); Moon Creek, Trib A (43.2976, −123.9837); Moon Creek, Trib A–1 (43.2944, −123.9753); Neely Creek (43.2960, −124.0380); Park Creek (43.2508, −123.8661); Park Creek, Trib B (43.2702, −123.8782); Schoolhouse Creek (43.1637, −124.0949); Steele Creek (43.2203, −124.1018); Steinnon Creek (43.2534, −124.1076); Unnamed (43.1305, −124.0759); Unnamed (43.2047, −124.0314); Unnamed (43.2127, −124.1101); Unnamed (43.2165, −123.9144); Unnamed (43.2439, −123.9275); Unnamed (43.2444, −124.0868); Unnamed (43.2530, −124.0848); Unnamed (43.2582, −124.0794); Unnamed (43.2584, −123.8846); Unnamed (43.2625, −124.0474); Unnamed (43.2655, −123.9269); Unnamed (43.2676, −124.0367); Vaughns Creek (43.2378, −123.9106); Whitley Creek (43.2899, −124.0115); Wimer Creek (43.1303, −124.0640); Wood Creek (43.1392, −124.1274); Wood Creek, North Fork (43.1454, −124.1211).

(v) *Lower Coquille Watershed 1710030506*. Outlet(s) = Coquille River (Lat 43.1237, Long −124.4261) upstream to endpoint(s) in: Alder Creek (43.1385, −124.2697); Bear Creek (43.0411, −124.2893); Beaver Creek (43.2249, −124.1923); Beaver Creek (43.2525, −124.2456); Beaver Slough, Trib A (43.2154, −124.2731); Bill Creek (43.0256, −124.3126); Budd Creek (43.2011, −124.1921); Calloway Creek (43.2060, −124.1684); Cawfield Creek (43.1839, −124.1372); China Creek (43.2170, −124.2076); Cold Creek (43.2038, −124.1419); Coquille River (43.0805, −124.1405); Coquille River, Trib A (43.2032, −124.2930); Cunningham Creek (43.2349, −124.1378); Dutch John Ravine (43.1744, −124.1781); Dye Creek (43.2274, −124.1569); Fahys Creek (43.1676, −124.3861); Fat Elk Creek (43.1373, −124.2560); Ferry Creek (43.1150, −124.3831); Fishtrap Creek (43.0841, −124.2544); Glen Aiken Creek (43.1482, −124.1497); Grady Creek (43.1032, −124.1381); Gray Creek (43.1222, −124.1286); Hall Creek (43.0583, −124.2516); Hall Creek, Trib A (43.0842, −124.1745); Harlin Creek (43.1326, −124.1633); Hatchet Slough, Trib A (43.1638, −124.3065); Hatchet Slough (43.1879, −124.3003); Lampa Creek (43.0531, −124.2665); Little Bear Creek (43.0407, −124.2783); Little Fishtrap Creek (43.1201, −124.2290); Lowe Creek (43.1401, −124.3232); Mack Creek (43.0604, −124.3306); Monroe Creek (43.0705, −124.2905); Offield Creek (43.1587, −124.3273); Pulaski Creek (43.1398, −124.2184); Randleman Creek (43.0818, −124.3039); Rich Creek (43.0576, −124.2067); Rink Creek (43.1764, −124.1369); Rock Robinson Creek (43.0860, −124.2306); Rollan Creek (43.1266, −124.2563); Sevenmile Creek (43.2157, −124.3350); Sevenmile Creek, Trib A (43.1853, −124.3187); Sevenmile Creek, Trib C (43.2081, −124.3340); Unnamed (43.1084, −124.2727); Unnamed 43.1731, −124.1852); Unnamed (43.1924, −124.1378); Unnamed (43.1997, −124.3346); Unnamed (43.2281, −124.2190); Unnamed

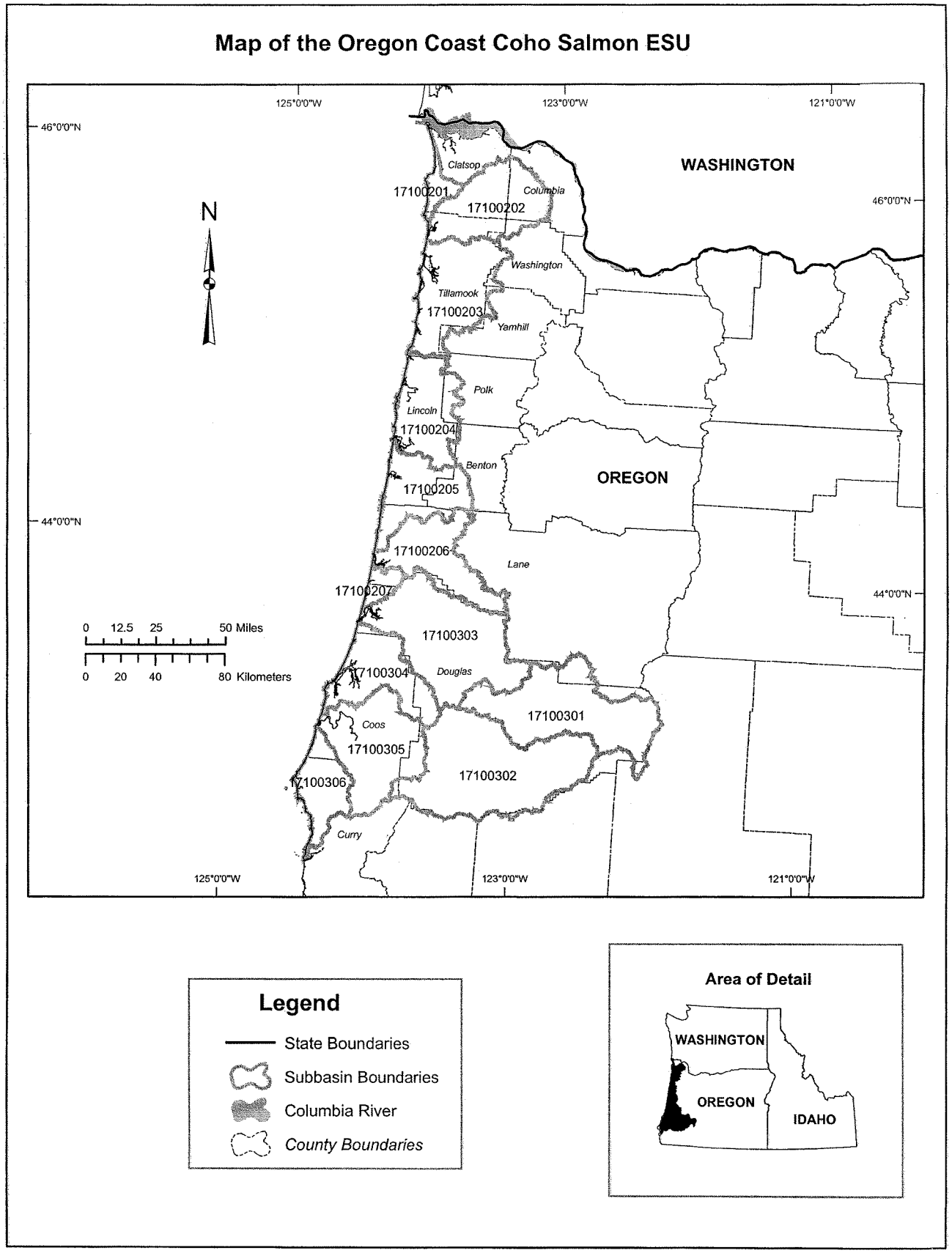
(43.2424, − 124.2737); Waddington Creek (43.1105, − 124.2915).

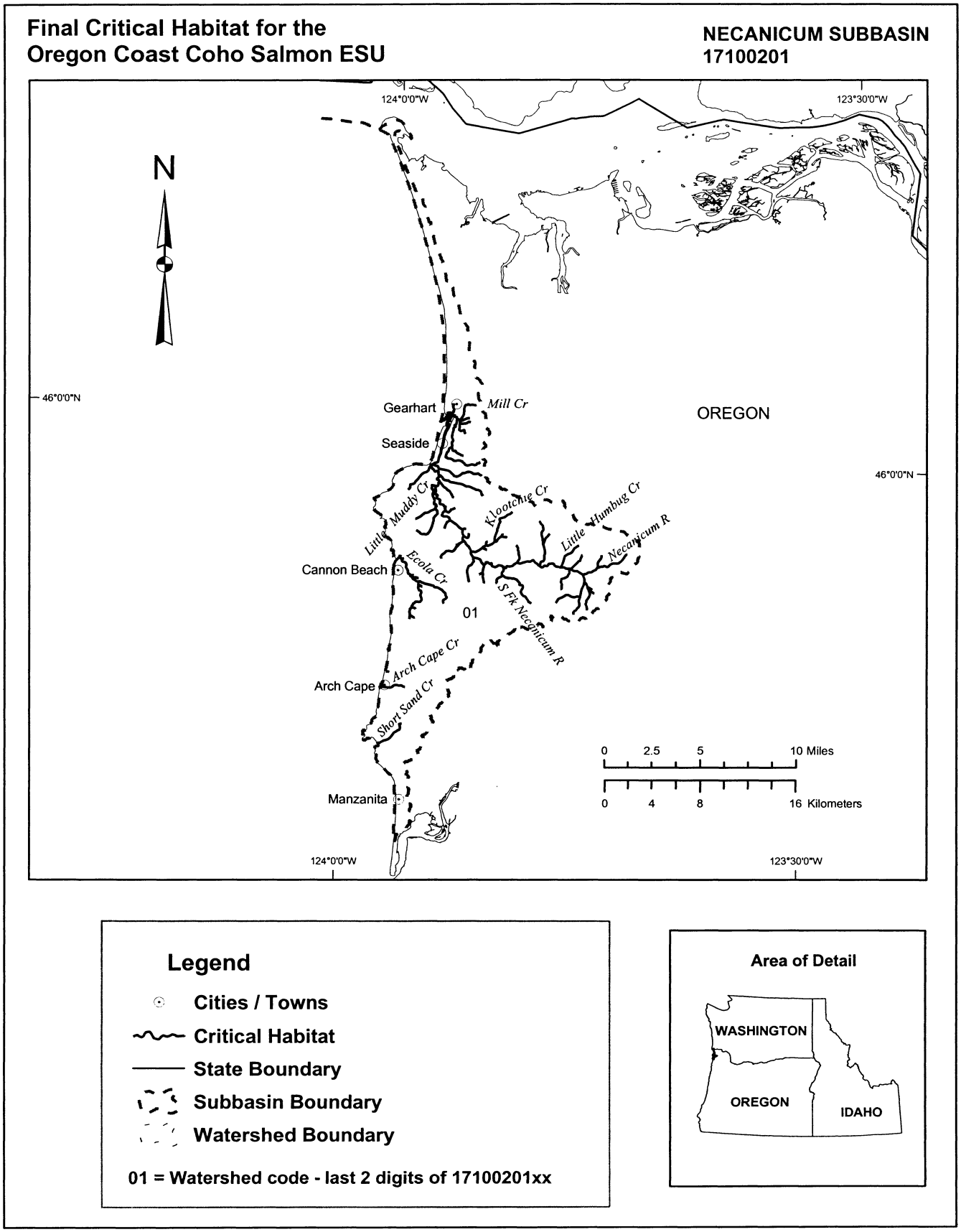
(13) Sixes Subbasin 17100306'(i) *Sixes River Watershed 1710030603*. Outlet(s) = Sixes River (Lat 42.8543, Long − 124.5427) upstream to endpoint(s) in: Beaver Creek (42.7867, − 124.4373); Carlton Creek (42.8594, − 124.2382); Cold Creek (42.7824, − 124.2070); Crystal Creek (42.8404, − 124.4501); Dry Creek (42.7673, − 124.3726); Edson Creek (42.8253, − 124.3782); Hays Creek (42.8455, − 124.1796); Little Dry Creek (42.8002, − 124.3838); Murphy Canyon (42.8516, − 124.1541); Sixes River (42.8232, − 124.1704); Sixes River, Middle Fork (42.7651, − 124.1782); Sixes River, North Fork (42.8878, − 124.2320); South Fork Sixes River (42.8028, − 124.3022); Sugar Creek (42.8217, − 124.2035); Unnamed (42.8189, − 124.3567); Unnamed (42.7952, − 124.3918); Unnamed (42.8276, − 124.4629).

(ii) *New River Frontal Watershed 1710030604*. Outlet(s) = New River (Lat 43.0007, Long − 124.4557); Twomile Creek (43.0440, − 124.4415) upstream to endpoint(s) in: Bethel Creek (42.9519, − 124.3954); Boulder Creek (42.8574, − 124.5050); Butte Creek (42.9458, − 124.4096); Conner Creek (42.9814, − 124.4215); Davis Creek (42.9657, − 124.3968); Floras Creek (42.9127, − 124.3963); Fourmile Creek (42.9887, − 124.3077); Fourmile Creek, South Fork (42.9642, − 124.3734); Langlois Creek (42.9238, − 124.4570); Little Creek (43.0030, − 124.3562); Long Creek (42.9828, − 124.3770); Lower Twomile Creek (43.0223, − 124.4080); Morton Creek (42.9437, − 124.4234); New River (42.8563, − 124.4602); North Fourmile Creek (42.9900, − 124.3176); Redibough Creek (43.0251, − 124.3659); South Twomile Creek (43.0047, − 124.3672); Spring Creek (43.0183, − 124.4299); Twomile Creek (43.0100, − 124.3291); Unnamed (43.0209, − 124.3386); Unnamed (43.0350, − 124.3506); Unnamed (43.0378, − 124.3481); Unnamed (43.0409, − 124.3544); Unnamed (42.8714, − 124.4586); Unnamed (42.9029, − 124.4222); Unnamed (42.9031, − 124.4581); Unnamed (42.9294, − 124.4421); Unnamed (42.9347, − 124.4559); Unnamed (42.9737, − 124.3363); Unnamed (42.9800, − 124.3432); Unnamed (43.0058, − 124.4066); Willow Creek (42.8880, − 124.4505).

(14) Maps of critical habitat for the Oregon Coast coho salmon ESU follow:

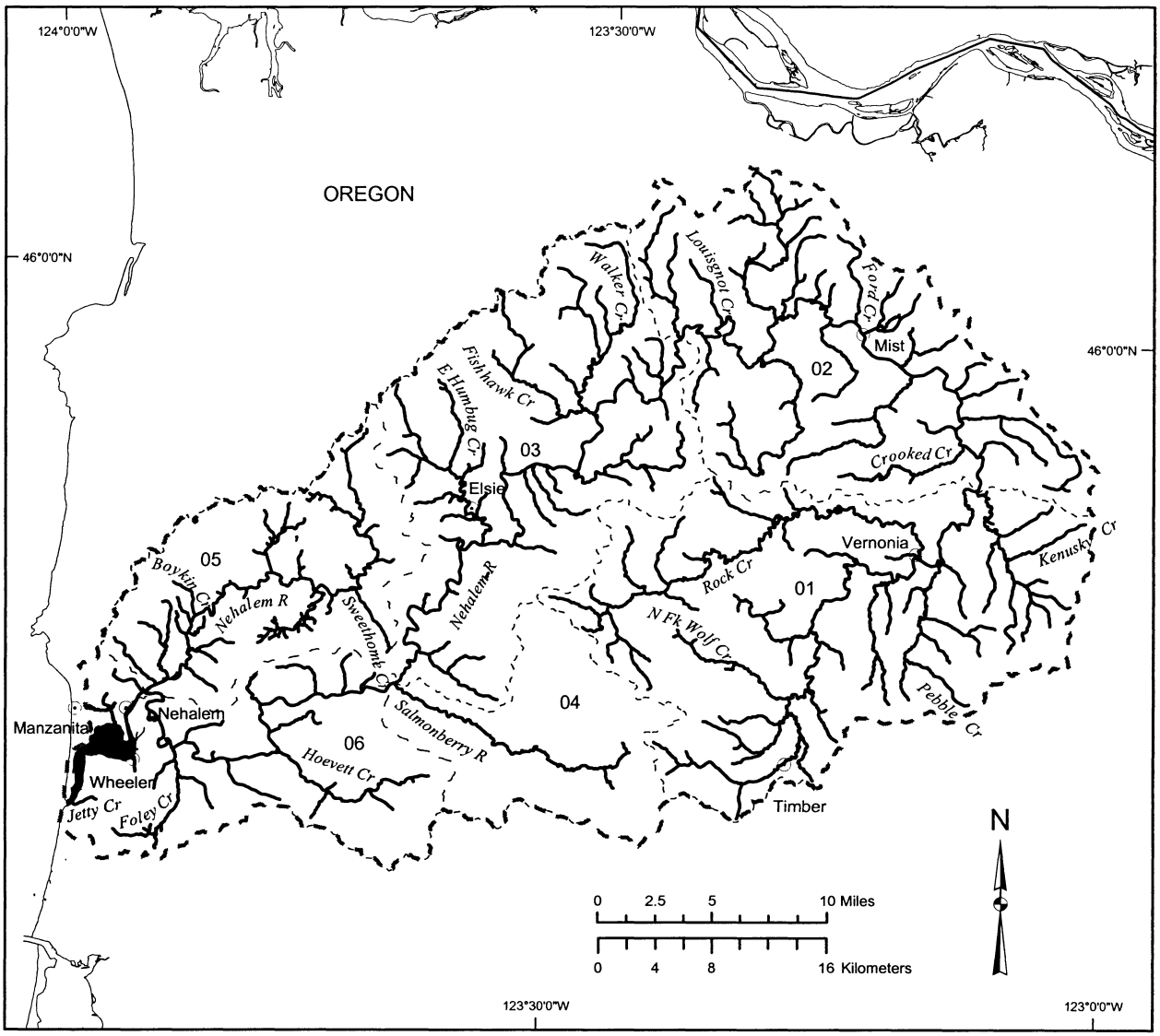
BILLING CODE 3510–22–P


Map of the Oregon Coast Coho Salmon ESU
125°0'0"W
123°0'0"W
121°0'0"W
46°0'0"N
44°0'0"N
N
WASHINGTON
OREGON
Clatsop
Columbia
Washington
Tillamook
Yamhill
Polk
Lincoln
Benton
Lane
Douglas
Coos
Curry
17100201
17100202
17100203
17100204
17100205
17100206
17100207
17100303
17100304
17100301
17100305
17100302
17100306
0 12.5 25 50 Miles
0 20 40 80 Kilometers
Legend
State Boundaries
Subbasin Boundaries
Columbia River
County Boundaries
Area of Detail
WASHINGTON
OREGON
IDAHO


Final Critical Habitat for the
Oregon Coast Coho Salmon ESU
NECANICUM SUBBASIN
17100201
124°0'0"W
123°30'0"W
N
46°0'0"N
Gearhart
Mill Cr
Seaside
OREGON
Little Muddy Cr
Klootchie Cr
Little Humbug Cr
Necanicum R
Cannon Beach
Ecola Cr
S Fk Necanicum R
01
Arch Cape Cr
Arch Cape
Short Sand Cr
Manzanita
0 2.5 5 10 Miles
0 4 8 16 Kilometers
Legend
Cities / Towns
Critical Habitat
State Boundary
Subbasin Boundary
Watershed Boundary
01 = Watershed code - last 2 digits of 17100201xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Final Critical Habitat for the Oregon Coast Coho Salmon ESU

NEHALEM SUBBASIN 17100202

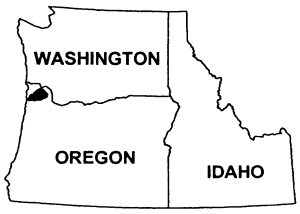


Legend

- Cities / Towns
- Critical Habitat
- State Boundary
- Subbasin Boundary
- Watershed Boundaries

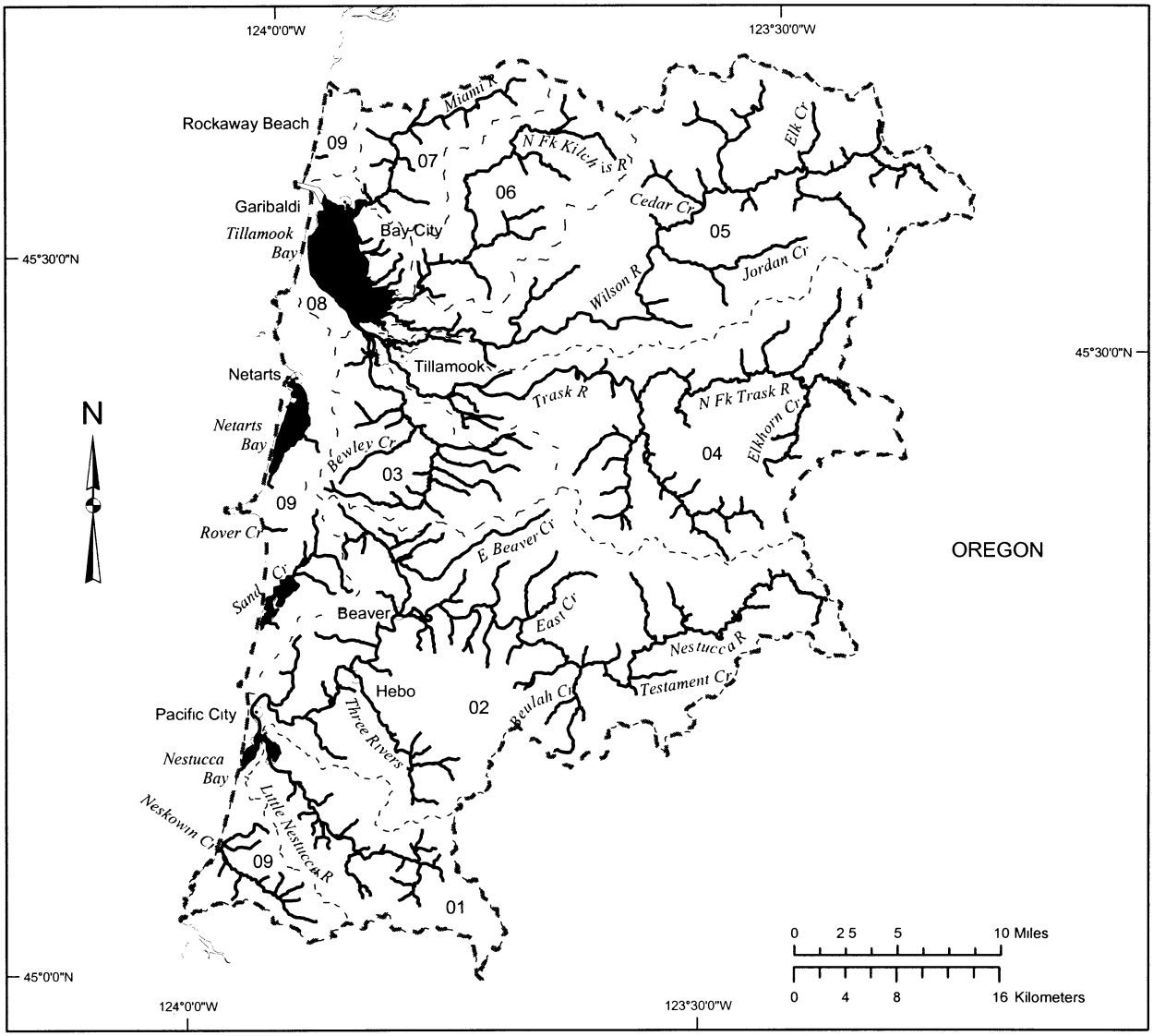
01 - 06 = Watershed code - last 2 digits of 17100202xx

Area of Detail



Final Critical Habitat for the Oregon Coast Coho Salmon ESU

WILSON - TRASK - NESTUCCA SUBBASIN 17100203

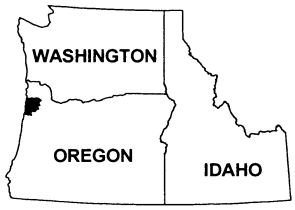


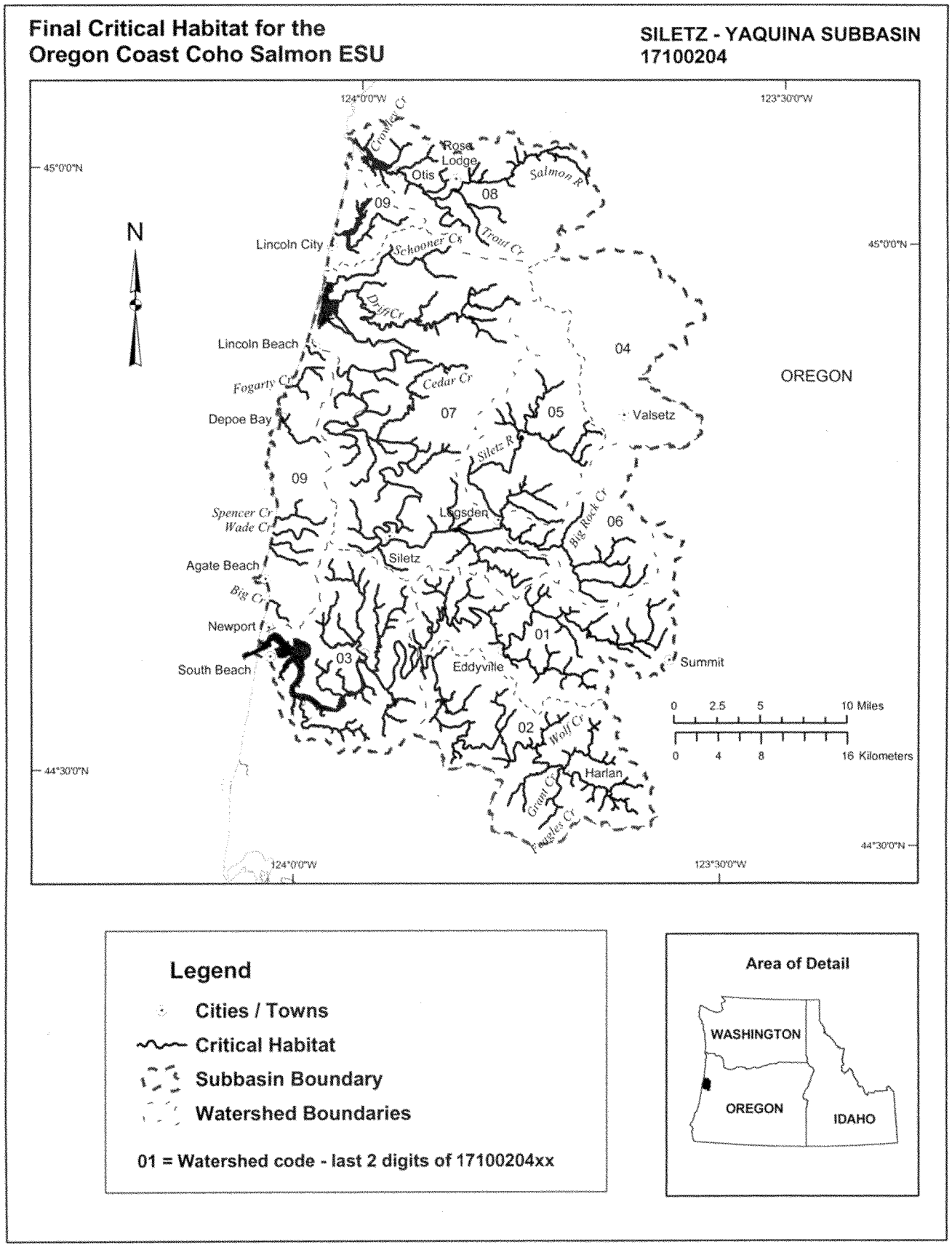
Legend

- Cities / Towns
- Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 09 = Watershed code - last 2 digits of 17100203xx

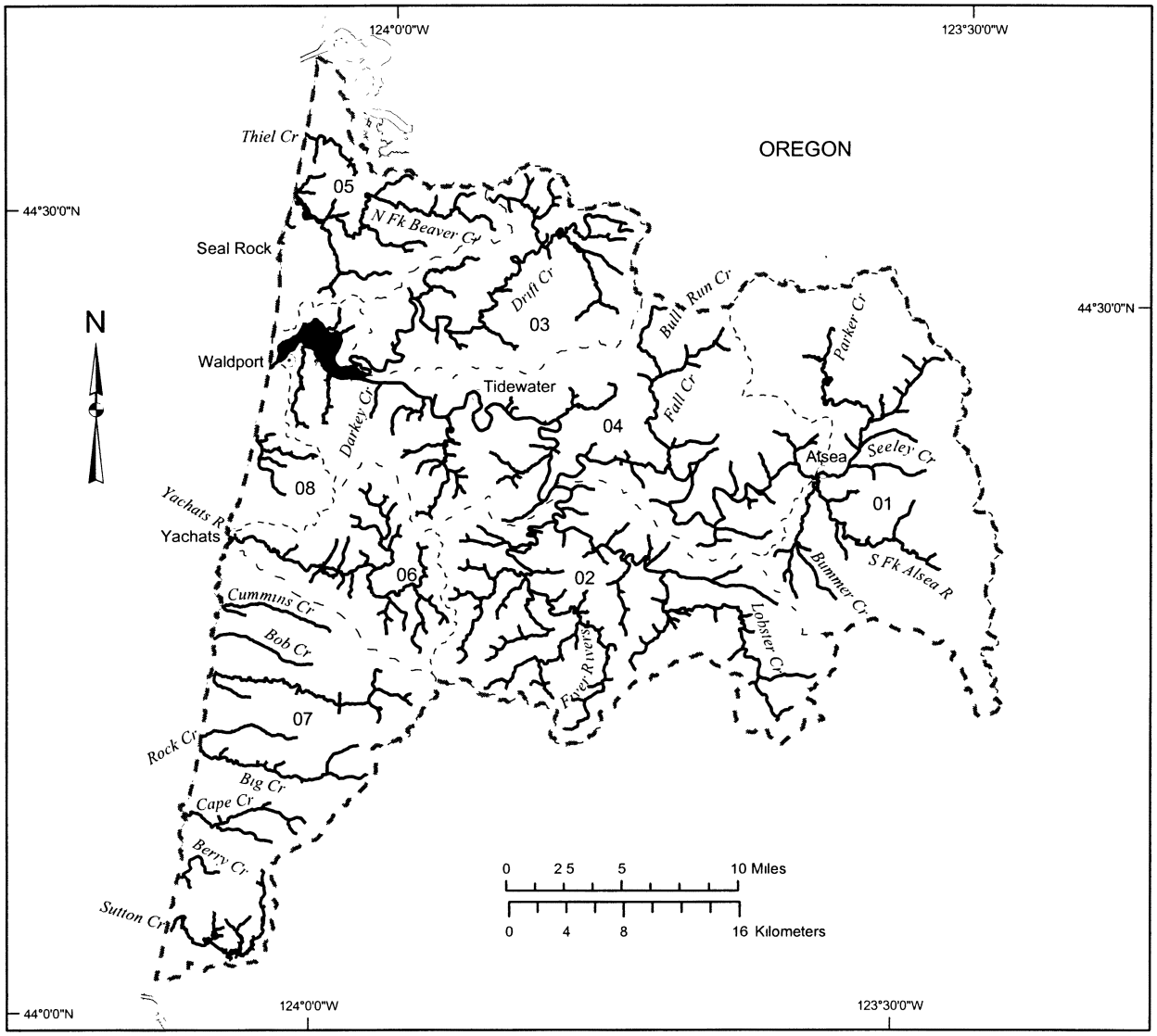
Area of Detail




Final Critical Habitat for the
Oregon Coast Coho Salmon ESU
SILETZ - YAQUINA SUBBASIN
17100204
124°0'0"W
123°30'0"W
45°0'0"N
44°30'0"N
N
Crowley Cr
Rose Lodge
Otis
Salmon R
09
08
Lincoln City
Schooner Cr
Trout Cr
Drift Cr
Lincoln Beach
04
OREGON
Fogarty Cr
Cedar Cr
Depoe Bay
07
05
Valsetz
Siletz R
09
Spencer Cr
Wade Cr
Logsden
Big Rock Cr
06
Agate Beach
Siletz
Big Cr
Newport
01
South Beach
03
Eddyville
Summit
0 2.5 5 10 Miles
0 4 8 16 Kilometers
02
Wolf Cr
Harlan
Grant Cr
Eagles Cr
Legend
Cities / Towns
Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 = Watershed code - last 2 digits of 17100204xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Final Critical Habitat for the Oregon Coast Coho Salmon ESU

ALSEA SUBBASIN 17100205

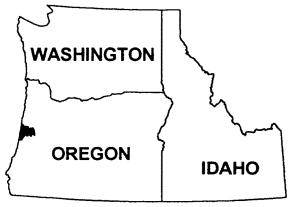


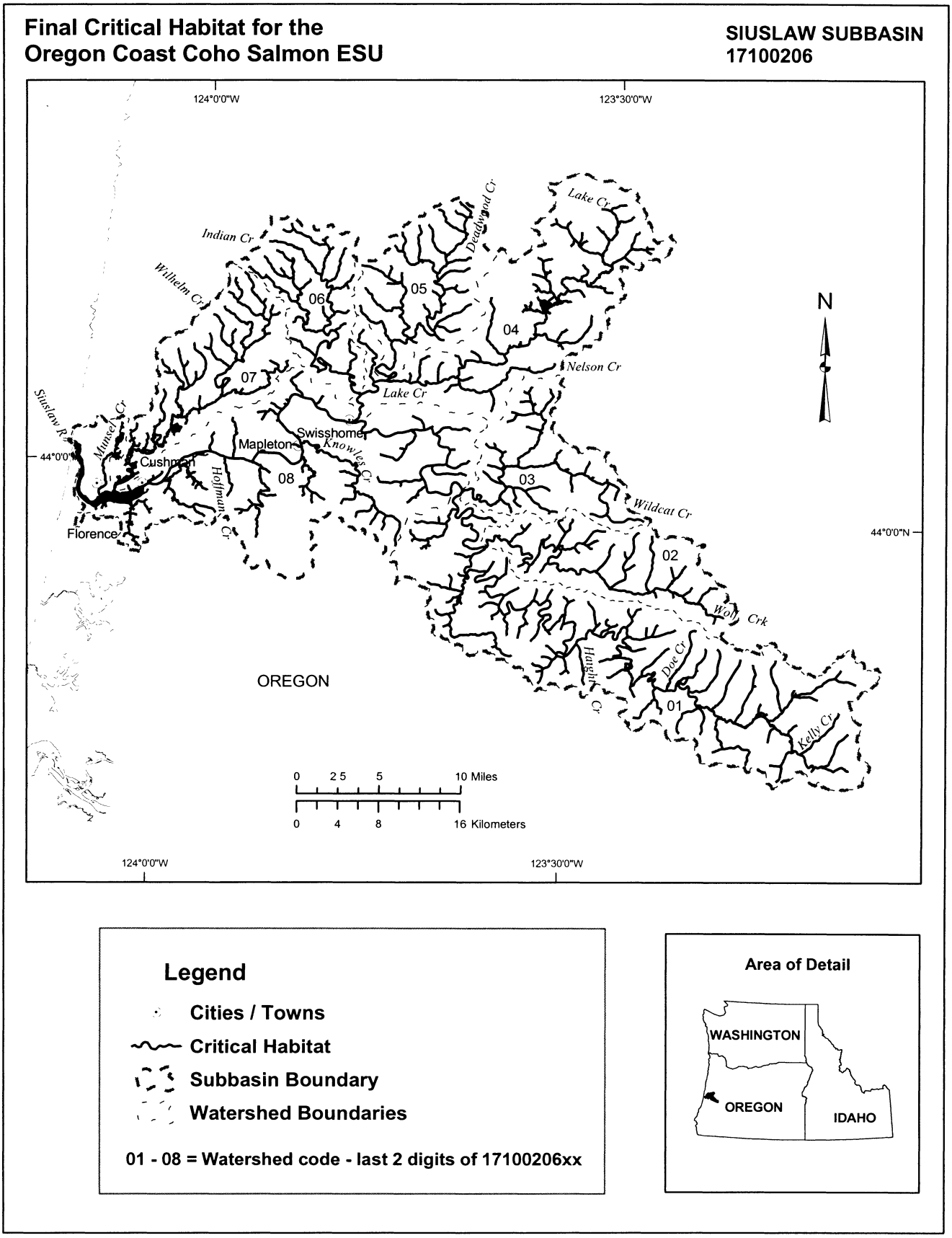
Legend

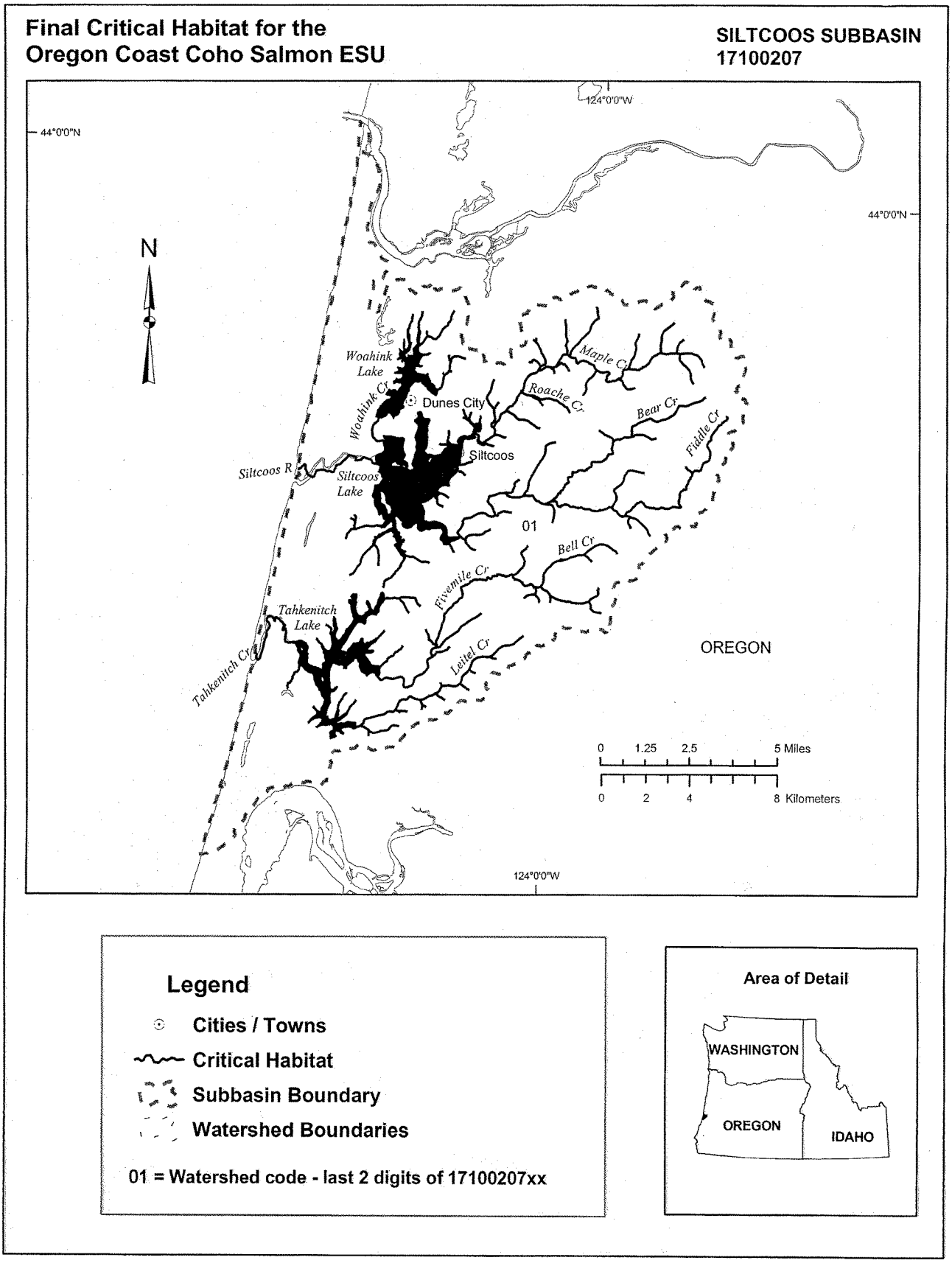
- Cities / Towns
- Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 08 = Watershed code - last 2 digits of 17100205xx

Area of Detail

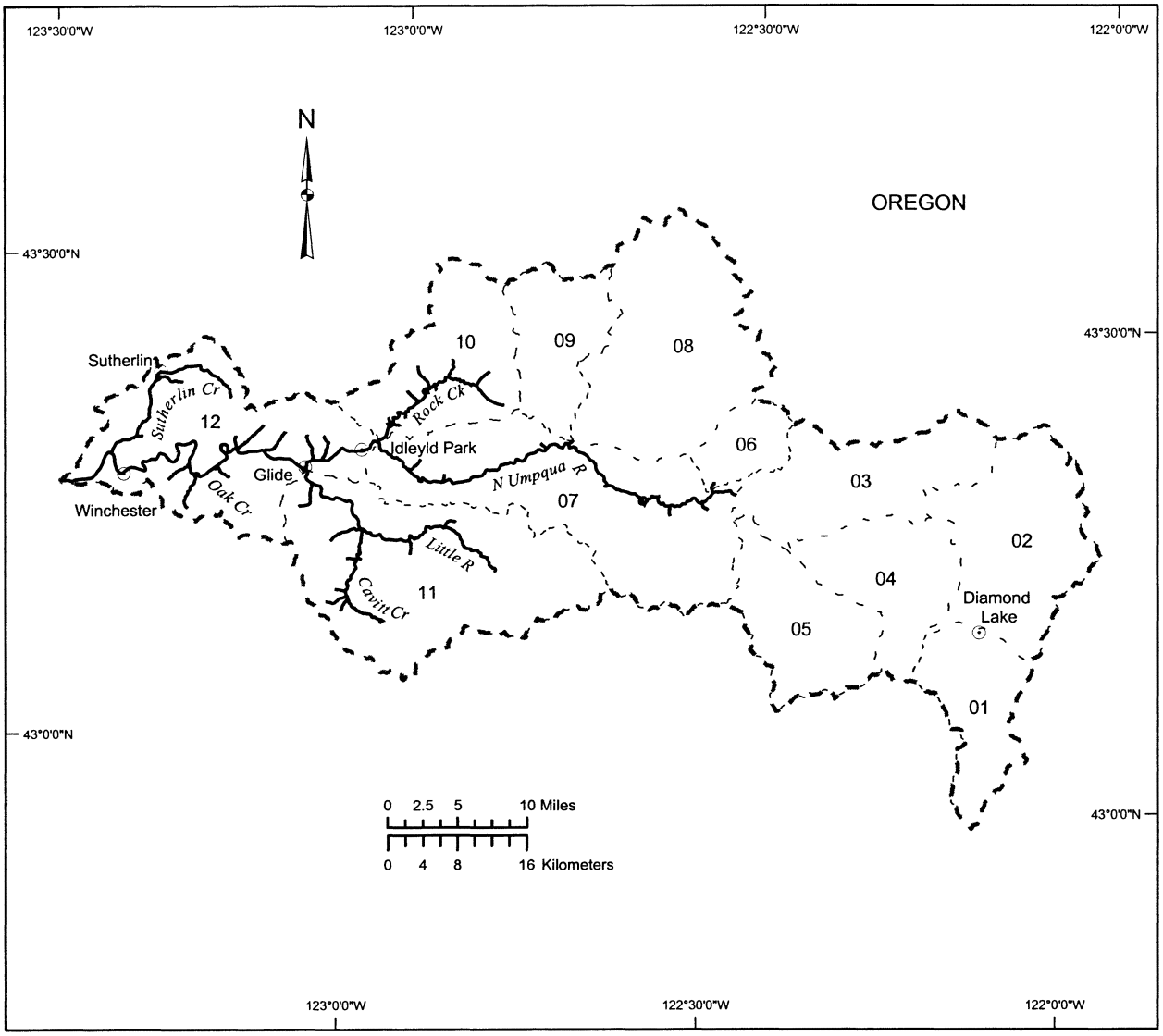



Final Critical Habitat for the
Oregon Coast Coho Salmon ESU
SIUSLAW SUBBASIN
17100206
124°0'0"W
123°30'0"W
44°0'0"N
Indian Cr
Wilhelm Cr
Deadwood Cr
Lake Cr
Nelson Cr
Lake Cr
Siuslaw R
Munsel Cr
Cushman
Mapleton
Swisshome
Knowles Cr
Hoffman Cr
Florence
Wildcat Cr
Wolf Crk
Doe Cr
Haight Cr
Kelly Cr
01
02
03
04
05
06
07
08
OREGON
N
0 2.5 5 10 Miles
0 4 8 16 Kilometers
Legend
Cities / Towns
Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 08 = Watershed code - last 2 digits of 17100206xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Final Critical Habitat for the
Oregon Coast Coho Salmon ESU
SILTCOOS SUBBASIN
17100207
124°0'0"W
44°0'0"N
44°0'0"N
N
Woahink Lake
Woahink Cr
Dunes City
Maple Cr
Roache Cr
Bear Cr
Fiddle Cr
Siltcoos R
Siltcoos Lake
Siltcoos
01
Bell Cr
Fivemile Cr
Tahkenitch Lake
Tahkenitch Cr
Leitel Cr
OREGON
0 1.25 2.5 5 Miles
0 2 4 8 Kilometers
124°0'0"W
Legend
Cities / Towns
Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 = Watershed code - last 2 digits of 17100207xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Final Critical Habitat for the Oregon Coast Coho Salmon ESU

NORTH UMPQUA SUBBASIN 17100301



Legend

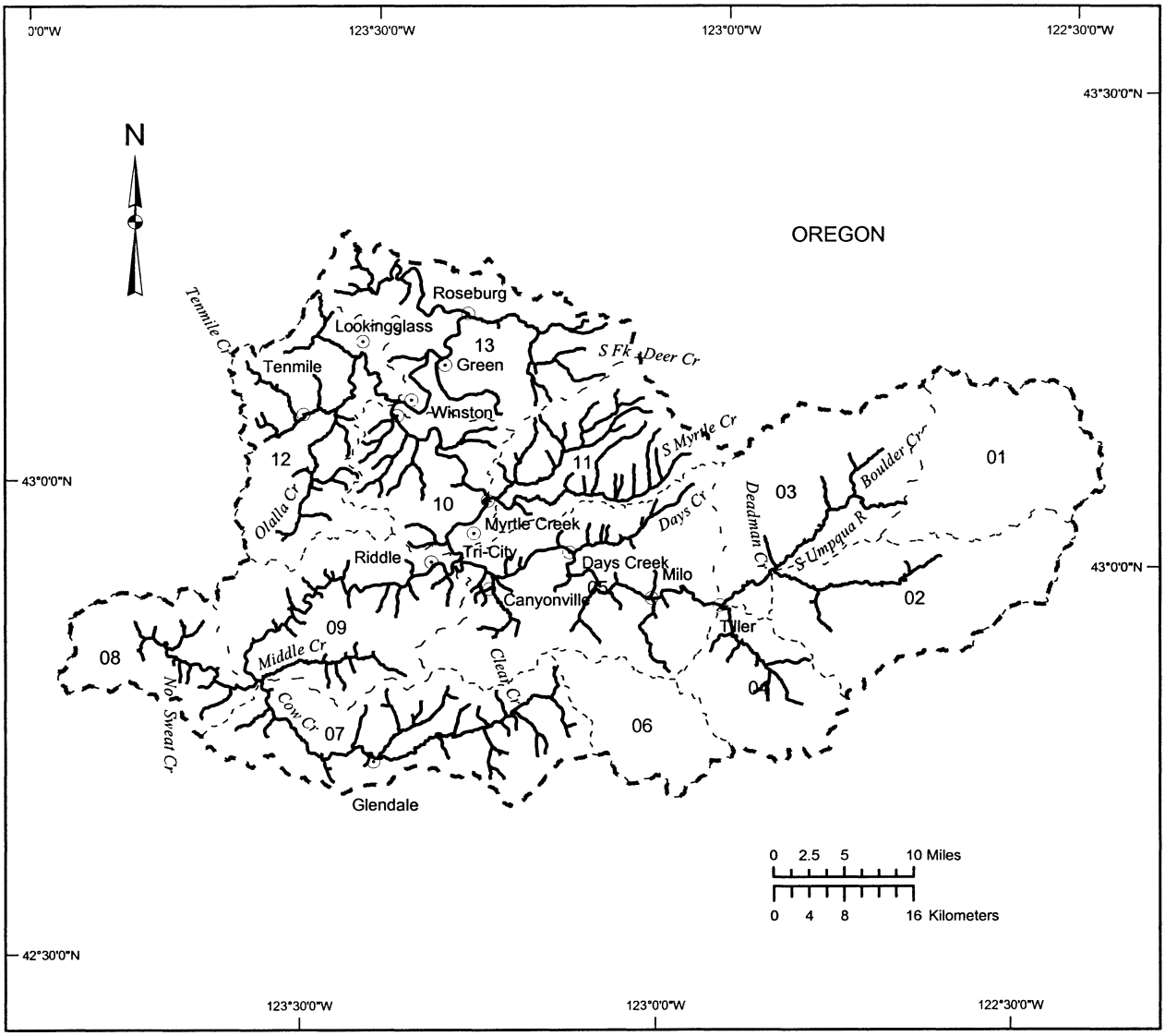
- Cities / Towns
- Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 12 = Watershed code - last 2 digits of 17100301xx

Area of Detail

Final Critical Habitat for the Oregon Coast Coho Salmon ESU

SOUTH UMPQUA SUBBASIN 17100302

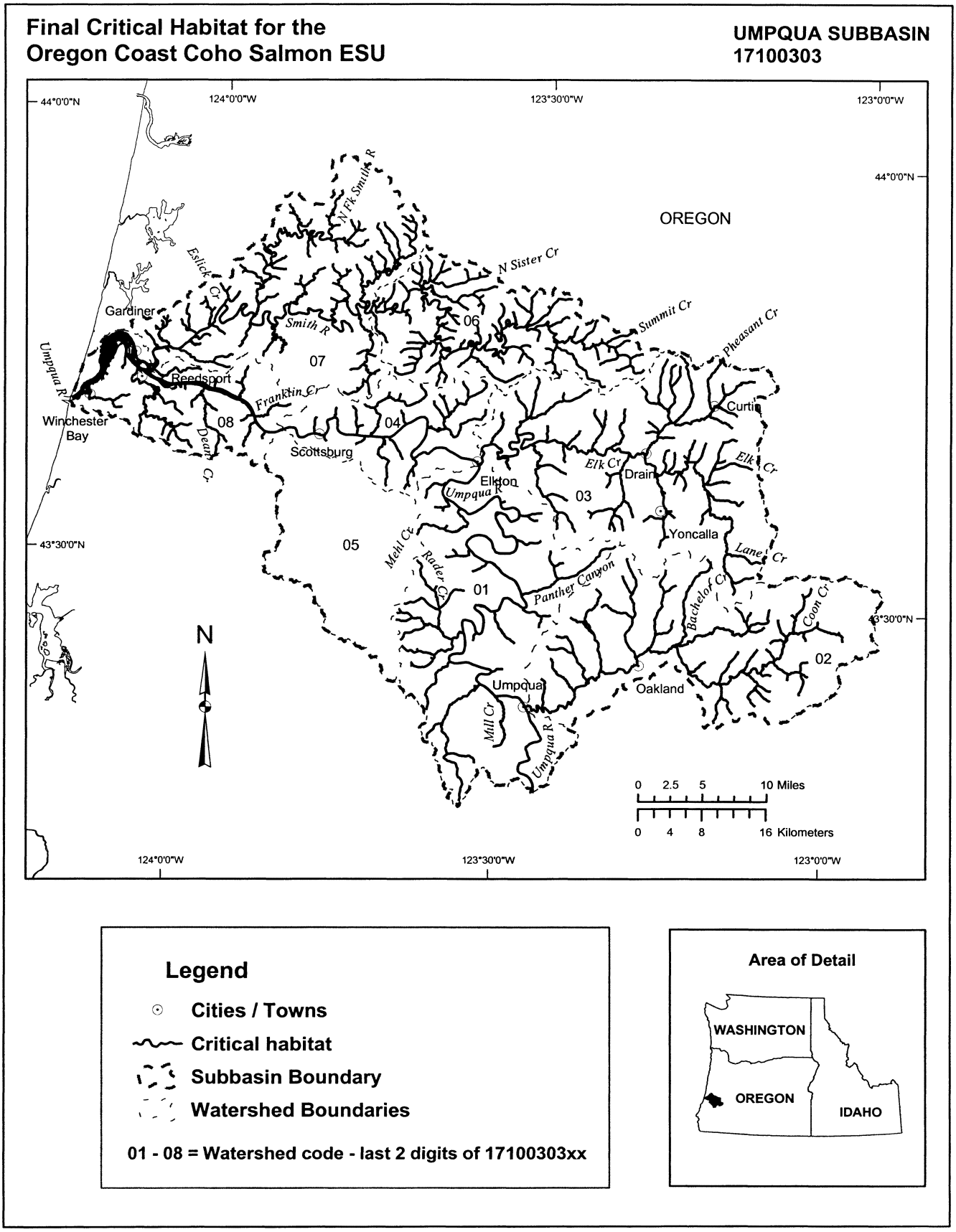


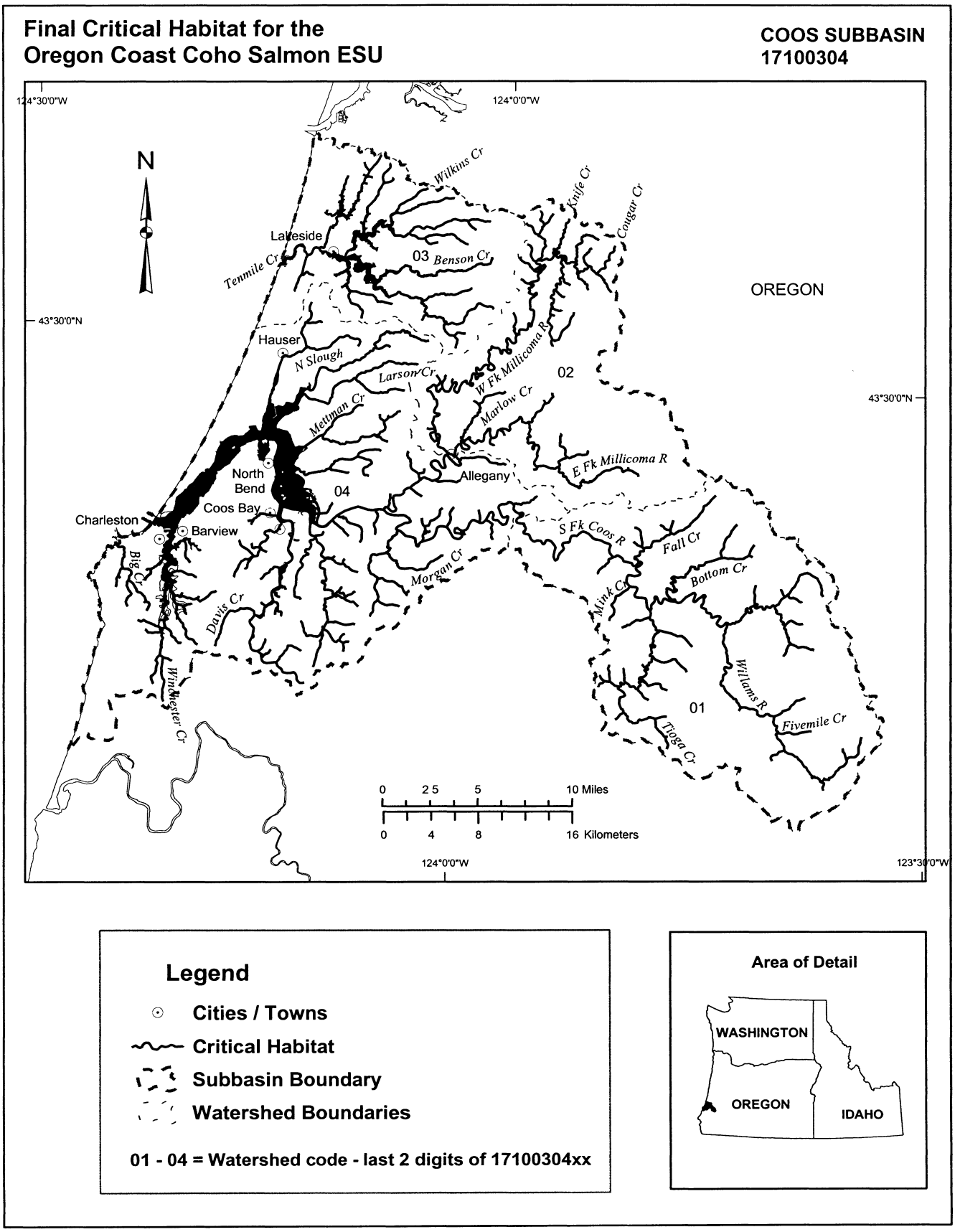
Legend

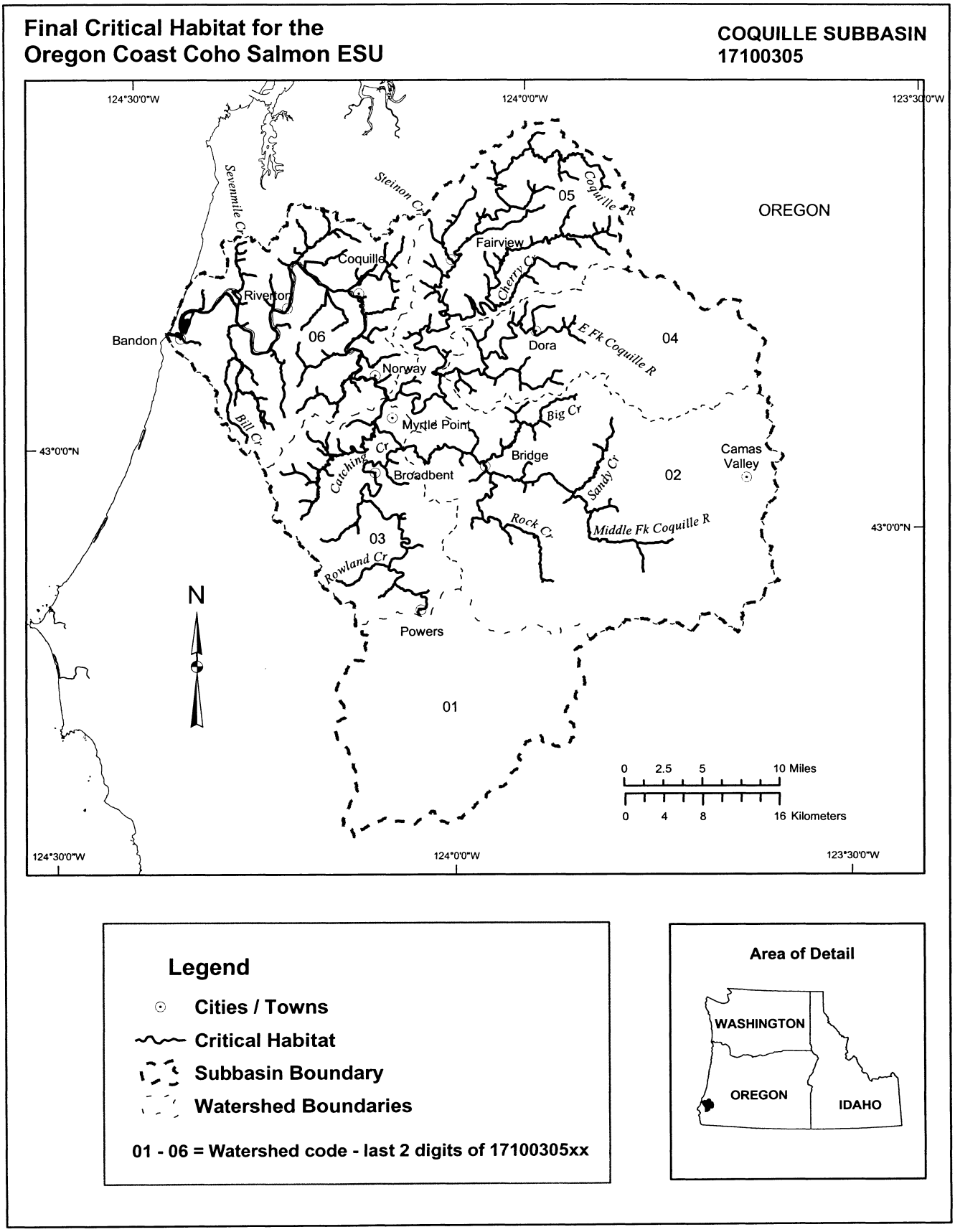
- Cities / Towns
- Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

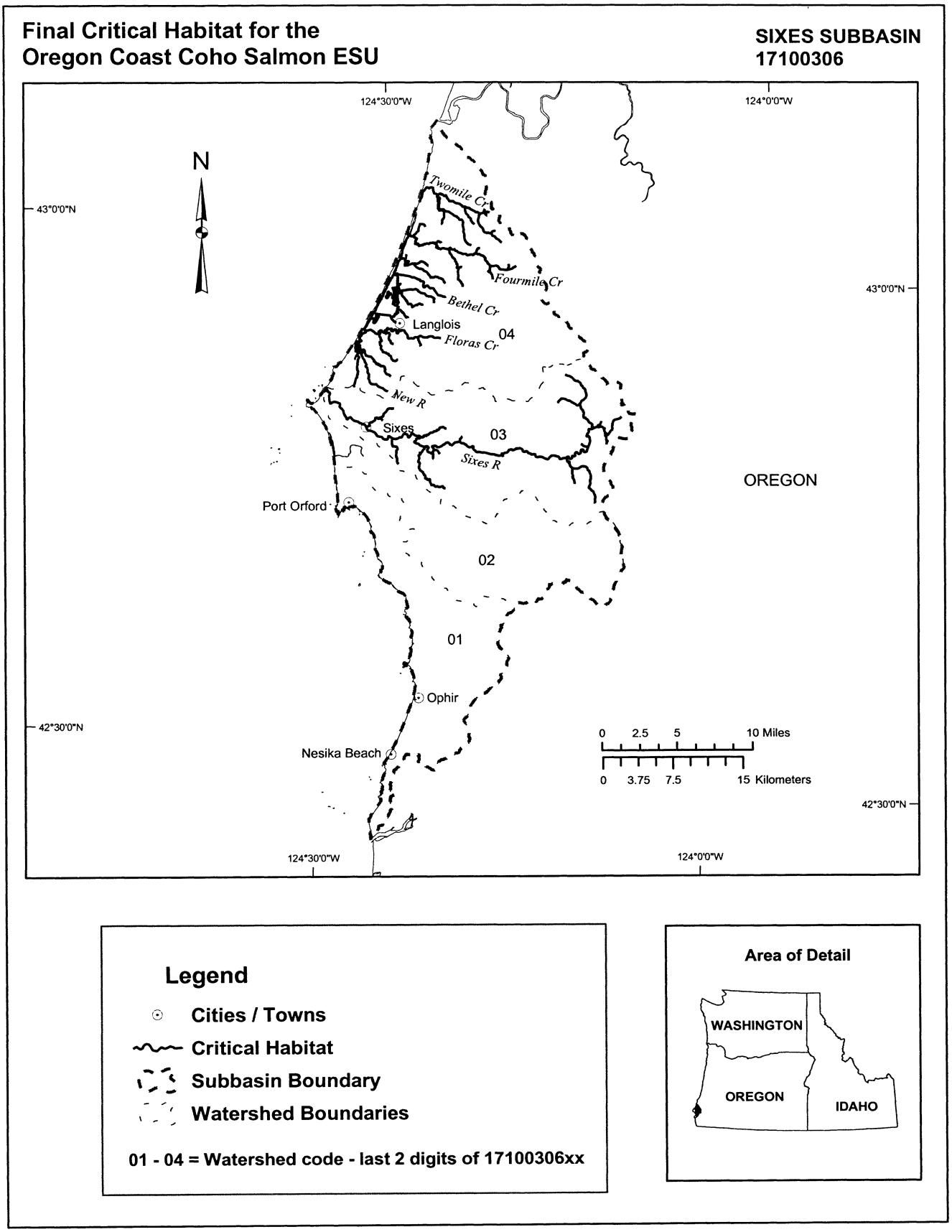
01 - 13 = Watershed code - last 2 digits of 17100302xx

Area of Detail


Final Critical Habitat for the
Oregon Coast Coho Salmon ESU
UMPQUA SUBBASIN
17100303
44°0'0"N
124°0'0"W
123°30'0"W
123°0'0"W
43°30'0"N
OREGON
N Fk Smith R
Eslick Cr
N Sister Cr
Summit Cr
Pheasant Cr
Gardiner
Smith R
06
07
Umpqua R
Reedsport
Franklin Cr
Winchester Bay
08
04
Dean Cr
Scottsburg
Elk Cr
Drain
Elkton
Umpqua R
03
Yoncalla
05
Mehl Cr
Rader Cr
01
Panther Canyon
Lane Cr
Bachelor Cr
Coon Cr
02
N
Umpqua
Oakland
Mill Cr
Umpqua R
0 2.5 5 10 Miles
0 4 8 16 Kilometers
Legend
Cities / Towns
Critical habitat
Subbasin Boundary
Watershed Boundaries
01 - 08 = Watershed code - last 2 digits of 17100303xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Final Critical Habitat for the
Oregon Coast Coho Salmon ESU
COOS SUBBASIN
17100304
124°30'0"W
124°0'0"W
N
Wilkins Cr
Knife Cr
Cougar Cr
Lakeside
Tenmile Cr
03
Benson Cr
OREGON
43°30'0"N
Hauser
N Slough
Larson Cr
W Fk Millicoma R
02
Marlow Cr
Mettman Cr
E Fk Millicoma R
North
Bend
Allegany
04
Coos Bay
Charleston
Barview
S Fk Coos R
Fall Cr
Big Cr
Morgan Cr
Bottom Cr
Mink Cr
Davis Cr
Winchester Cr
Williams R
01
Fivemile Cr
Tioga Cr
0 2.5 5 10 Miles
0 4 8 16 Kilometers
124°0'0"W
123°30'0"W
Legend
Cities / Towns
Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 04 = Watershed code - last 2 digits of 17100304xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Final Critical Habitat for the
Oregon Coast Coho Salmon ESU
COQUILLE SUBBASIN
17100305
124°30'0"W
124°0'0"W
123°30'0"W
43°0'0"N
OREGON
Sevenmile Cr
Steinon Cr
Coquille R
05
Fairview
Coquille
Cherry Cr
Riverton
Bandon
06
Dora
E Fk Coquille R
04
Norway
Big Cr
Bill Cr
Myrtle Point
Catching Cr
Bridge
Camas Valley
Broadbent
Sandy Cr
02
Rock Cr
Middle Fk Coquille R
03
Rowland Cr
N
Powers
01
0 2.5 5 10 Miles
0 4 8 16 Kilometers
Legend
Cities / Towns
Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 06 = Watershed code - last 2 digits of 17100305xx
Area of Detail
WASHINGTON
OREGON
IDAHO



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