historic preservation community on the streamlining initiative.

Finally, at the public hearing and in written testimony, the representatives of organized labor raised an additional concern regarding the class exemption as originally proposed. The unions expressed concern that it would be possible to create small carriers with few or no employees to act as a way to avoid labor protection. For example, they stated, a Class I railroad could spin off a failing line to a small-carrier shell with no or few employees under the class exemption for sales to Class III carriers, *see* 49 CFR 1150 subpart E, thus avoiding labor protection. The ''small carrier'' could then use petitioners' proposed class exemption to abandon the line. Petitioners have acknowledged that such a practice would be a concern and expressed a willingness to explore ways to protect against such possibilities, such as including a holding period before the abandonment class exemption could be utilized. The Board requests public comment on whether to propose such a holding period, and if so, what the holding period should be and how it would work.

Given our initial concerns about some aspects of petitioners' class exemption, as proposed, and the perceived shortcomings petitioners see in the current abandonment regulations for smaller carriers, the Board also requests public comments on other possible ways to improve the abandonment process, and address the kinds of concerns petitioners have raised. For example, the 2-year out-of-service exemption has reportedly worked well since it has been adopted. Would a 1-year out-of-service exemption alleviate some of the frustrations with the current process evidently experienced by small carriers? Also, prior to ICCTA, 49 U.S.C. 10904(b) directed the agency to grant an abandonment application if no protest had been received within 30 days of filing. Would a similar, ''no-protest'' abandonment process for a petition for exemption improve upon the current process for small carriers? The Board seeks comments on these and any other proposals interested persons might submit.

This action will not significantly affect either the quality of the human environment or the conservation of energy resources.

Decided: January 9, 2006.

By the Board, Chairman Buttrey and Vice Chairman Mulvey.

Vernon A. Williams,

Secretary.

[FR Doc. 06–392 Filed 1–18–06; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 223

[Docket No. 051227348–5348–01; I.D. 020105C]

Endangered and Threatened Species: Withdrawal of Proposals to List and Designate Critical Habitat for the Oregon Coast Evolutionarily Significant Unit (ESU) of Coho Salmon

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

ACTION: Proposed rule; withdrawal.

SUMMARY: In June 2004, we (NMFS) proposed that the Oregon Coast coho Evolutionarily Significant Unit (ESU) (*Oncorhynchus kisutch*) be listed as a threatened species under the Endangered Species Act (ESA). In June 2005, we extended the 1-year deadline for the final listing determination by 6 months in light of public comments received and an assessment by the State of Oregon concluding that the Oregon Coast coho ESU is viable (that is, likely to persist into the foreseeable future under current conditions). After considering the best available scientific and commercial information available, we have concluded that the ESU is not in danger of extinction throughout all or a significant portion of its range, nor is it likely to become so within the foreseeable future. We have determined that the Oregon Coast coho ESU does not warrant listing as an endangered or threatened species under the ESA at this time. Therefore we have decided to withdraw the proposed rule to list this ESU. On December 14, 2004, we proposed critical habitat for the Oregon Coast coho ESU. Because we are withdrawing the proposed listing determination, we are also withdrawing the proposed rule to designate critical habitat for this ESU.

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

FOR FURTHER INFORMATION CONTACT: Dr. 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 Federal 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 (62 FR 24588; May 6, 1997).

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* decision). 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, FWS, and the U.S. Geological Survey) to review the viability and extinction risk of naturally spawning populations in the 27 ESUs under review, including the Oregon Coast coho ESU (Good et al., 2005; NMFS, 2003b). A slight majority of the BRT concluded that the naturally spawning populations in the Oregon Coast coho ESU were likely to become endangered, noting that short-term risks were alleviated by encouraging high escapements in recent years. 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 (that is, not in danger of extinction, likely to become endangered in the foreseeable future), the BRT's conclusion is not a recommendation to list species. Rather, it is information for the decision-maker, who must also consider the risks and benefits from artificial propagation programs included in the ESU, efforts being made to protect the species, and any other information available to the agency, and must then weigh that information in light of the five factors listed under section 4(a)(1) of the ESA.

On June 14, 2004, based on the BRT report, we proposed to list the Oregon Coast coho ESU as a threatened species (69 FR 33102). 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 (and other salmonids in Oregon). Following an initial public comment period of 90 days, the public comment period was extended twice for an additional 36 and 22 days, respectively (69 FR 53031, August 31, 2004; 69 FR 61348, October 18, 2004).

In January 2005 the State of Oregon released a draft Oregon Coastal Coho Assessment (draft 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—U.S. Fish and Wildlife Service's Policy on Evaluating Conservation Efforts (''PECE''; 68 FR 15100, March 28, 2003). Oregon's draft 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 assessment also concluded that it is highly likely that existing monitoring efforts will 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 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 developing the final listing determination for the Oregon Coast coho ESU. The public comment period on Oregon's draft assessment extended through March 11, 2005.

We received 15 comments on Oregon's draft assessment, and on March 18, 2005, we forwarded these comments, as well as our technical review (NMFS, 2005b) and that of NMFS' Northwest Fisheries Science Center (NWFSC) (NMFS, 2005a), 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 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 (final assessment). Oregon's final assessment includes a summary of, and response to, the comments received on the draft assessment, and includes several substantive changes intended to address concerns raised regarding the sufficiency and accuracy of the draft assessment. Oregon's final assessment concludes 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)). We announced a 30-day public comment period to solicit information regarding the validity of Oregon's final assessment, particularly in light of the concerns raised with respect to Oregon's draft assessment.

Statutory Framework for ESA 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.

Policy for the Evaluation of Conservation Efforts

As noted 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.

Overview of the Oregon Plan

The Oregon Plan is a ''framework of state laws, rules, and executive orders designed to enhance and protect watershed health, at-risk species, and water quality by governing forest and agricultural practices, water diversions, wetlands, water quality, and fish and wildlife protections'' (Oregon Watershed Enhancement Board, OWEB, 2002). The Oregon Plan includes several pre-existing activities and regulatory and non-regulatory programs, as well as additional coordination, compliance, investment, monitoring, and voluntary involvement that are provided under the umbrella of the Oregon Plan. The mission of the Oregon Plan is to restore the watersheds of Oregon and recover the fish and wildlife populations of those watersheds to productive and sustainable levels in a manner that provides substantial environmental, cultural, and economic benefits (IMST, 2002). The Oregon Plan seeks to address factors for decline related to habitat loss and degradation by focusing on human infrastructure and activities that can adversely affect salmonids and their habitat (e.g., fisheries management, hatchery practices, fish passage barriers, forestry, agriculture, livestock grazing, water diversions and fish screens, urbanization, permitted pollutant discharges, and removal and fill permits). The Independent Multidisciplinary Science Team (IMST), the independent expert panel that provides scientific oversight for the Oregon Plan, has previously reviewed the adequacy of various elements of the Oregon Plan in addressing historically harmful practices, identifying and monitoring threats impeding population- and ESU-level viability, and restoring degraded salmon habitats (e.g., IMST, 1998; 1999; 2002a; 2002b). Oregon's recent assessment is the first effort, however, to consider the effect of actions and measures under the Oregon Plan at an ESU scale.

Overview of Oregon's Assessment

Oregon's assessment was a comprehensive effort including all state natural resource agencies and several Federal partners. Oregon's assessment represents an unprecedented, rigorous analysis of the viability of the Oregon Coast coho ESU, past and continuing threats to coho populations and the ESU, and protective efforts under the Oregon Plan aimed at addressing the factors associated with the ESU's decline.

Oregon's assessment includes several elements that inform our consideration under each of the listing determination steps: reviewing the status of the species, identifying threats facing the species, assessing whether certain protective efforts mitigate these threats, and making a reasonable prediction about the species' future persistence (see the ''Statutory Framework for Making ESA Listing Determinations'' section, above). Oregon's assessment includes a viability analysis that directly informs our review of the status of the species. Oregon's assessment also includes a review of a variety of regulatory mechanisms and conservation programs under the Oregon Plan, using PECE as a conceptual framework for its analysis. Not all aspects of the Oregon Plan, however, are properly reviewed under PECE, which focuses on programs not yet implemented or not yet having demonstrated effectiveness. The information included in Oregon's ''PECE'' analysis informs our consideration of the five ESA Section 4(a)(1) factors by identifying present or future threats to the viability of the Oregon Coast coho ESU. Oregon's PECE analysis also informs our consideration of protective efforts and whether they substantially ameliorate identified threats and reduce the ESU's risk of extinction. Some protective efforts under the Oregon Plan are fully implemented, and information is available demonstrating their level of effectiveness. Other protective efforts under the Oregon Plan are new, not yet implemented, or have not demonstrated effectiveness. We evaluate such unproven efforts using the criteria outlined in PECE to determine their certainties of implementation and effectiveness.

Oregon's viability analysis concluded that the Oregon Coast coho ESU is currently viable, with the component

populations generally demonstrating sufficient abundance, productivity, distribution, and diversity to be sustained under the current and foreseeable range of future environmental conditions. Oregon based its conclusion largely on its findings that (1) the Oregon Coast coho populations exhibit strong density dependence conferring resilience in periods of low population abundance, (2) there are sufficient high quality habitats within the ESU to sustain productivity during periods of adverse environmental conditions; (3) current harvest regulations and hatchery reforms adequately address past harmful practices; (4) the ESU is resilient in long periods of poor ocean survival conditions; and (5) measures under the Oregon Plan make it unlikely that habitat conditions will be degraded further in the future.

In assessing the threats facing the Oregon Coast coho ESU, Oregon acknowledged in its final assessment that a number of adverse environmental conditions could coincide posing a severe threat to the ESU's viability. However, Oregon concluded that the ESU has demonstrated the ability to remain viable during such a convergence of adverse conditions, such as had occurred in the 1990s, and to rebound quickly once conditions had moderated. Oregon concluded that the life cycle, productivity, and spatial structure of Oregon Coast coho provide protection and reduce the likelihood that catastrophic events would result in the ESU not being viable in the foreseeable future. Oregon acknowledged that ocean conditions and stream habitat complexity remain moderate threats for the ESU, but concluded that past threats from high harvest rates, poor hatchery practices, blockages to fish passage, and impaired water quality and quantity have been substantially reduced under the Oregon Plan. Oregon concluded that the significant reductions in these threats are manifested in the present viability of the ESU. Oregon underscored that, although the ocean environment for Oregon Coast coho survival has improved since the 1990s, future ocean conditions are highly uncertain.

Oregon's viability conclusion was not predicated on a finding that specific conservation measures under the Oregon Plan provide sufficient certainty of implementation and effectiveness to substantially ameliorate risks facing the ESU. Rather, its conclusion was based on the past and present biological performance of, and threats facing, the ESU.

The difference between Oregon's conclusion that the ESU is likely to persist into the foreseeable future, and the 2003 BRT's slight majority conclusion that it is not, rests on two major components that both considered: the adequacy of current habitat conditions to support future persistence, and the uncertainty about future ocean conditions. (In our review of Oregon's assessment, we raised concerns about two other aspects of the analysis: (1) Assumptions in Oregon's model about productivity at low population size; and (2) assumptions about minimum abundance thresholds. These were not part of the 2003 BRT assessment because the BRT did not conduct population viability modeling).

Summary of Comments Received

We solicited public comment on the proposed listing determination for the Oregon Coast coho ESU, and on Oregon's draft and final assessments, for 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 listing determinations, including the proposed determination for the Oregon Coast coho ESU (69 FR 53031, August 31, 2004; 69 FR 61348, October 18, 2004).

A joint NMFS/FWS policy requires us to solicit independent expert review from at least three qualified specialists, concurrent with the public comment period (59 FR 34270; July 1, 1994). We solicited technical review of the June 2004 proposed 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.

In December of 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 (Public Law 106–554), is intended to ensure the quality of agency information, analyses, and regulatory activities and provide for a more transparent review process. We consider the scientific information used by the agency in determining to withdraw the proposed listing determination and critical habitat designation for Oregon Coast coho to be ''influential scientific information'' in the context of the OMB Peer Review Bulletin.

We believe the independent expert review under the joint NMFS/FWS peer review policy, and the comments received from several academic societies and expert advisory panels, collectively satisfy the Peer Review Bulletin's requirements for ''adequate [prior] peer review'' (NMFS, 2005h). We solicited technical review of the proposed hatchery listing policy and salmon and steelhead listing determinations 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 producing the documents. In addition to these solicited reviews, several independent scientific panels and academic societies provided technical review of the hatchery listing policy and proposed listing determinations, and the supporting documentation. Many of the members of these panels were individuals from whom we had solicited review. We thoroughly considered and, as appropriate, incorporated the review comments into these final listing determinations.

In response to the 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 and 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 respondents 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 four of the 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 final listing determinations for 16 salmon ESUs (70 FR 37160; June 28, 2005) for a summary and discussion of general issues raised by the comments received.

Below we address the comments received that directly pertain to the listing determination for the Oregon Coast coho ESU and Oregon's assessment. We received many substantive comments of a detailed and technical nature, particularly concerning Oregon's assessment report. Below we confine our summary of the comments received to those issues with the potential to influence the final listing determination. (Copies of the full text of comments received are available upon request, see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**, above.) The following summary of comments and our responses are organized into four general categories: (1) The consideration of hatchery origin fish in delineating the Oregon Coast coho ESU and evaluating its viability; (2) Oregon's modeling of the viability of the Oregon Coast coho ESU; (3) the consideration of threats facing, and efforts being made to protect, the species; and (4) the applicable standard(s) under the ESA for making a final listing determination of the Oregon Coast coho ESU.

Comments on the Consideration of Hatchery-Origin Fish

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, 2003a, 2004b, 2004c) acknowledged that the level of divergence may be substantial. ODFW recommended that both the North Fork Nehalem River and Fishhawk Lake hatchery stocks should 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, but will have returning adults 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 should be excluded from the ESU. Although both of these stocks were originally founded from the local natural populations, they have not since 1986 regularly incorporated natural fish into their broodstock. Additionally, the two hatchery stocks have not been managed in a way to assure that they remain separate and conserve their respective genetic resources. In 2 of every 3 years, the Nehalem hatchery program releases the North Fork Nehalem hatchery coho stock, and in the third year it releases the Fishhawk Lake stock. Since adult coho return at different ages, it is highly likely that mixing has occurred between the two stocks. Although the North Fork Nehalem and Fishhawk Lake hatchery stocks cluster genetically with other stocks that are part of the Oregon Coast coho ESU (Weitkamp et al., 1995), the stocks are managed in such a way that they are substantially reproductively isolated from the local natural populations, and it is likely that they have substantially diverged from the evolutionary legacy of the 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. However, we agree with ODFW that returns from Calapooya Creek hatchery stock, having been recently derived from local natural-origin fish, are likely no more than moderately diverged from the local natural populations and so will 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, 2004c). 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 and not consider program-specific information regarding broodstock origin, hatchery practices, and performance of hatchery- and natural-origin fish.

Comments on Oregon's Modeling of ESU Viability

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, 2003b), and Oregon's assessment. The Cramer et al. (2004) report does not, by itself, add to our consideration of the BRT's or Oregon's findings.

Comment 4: Several commenters expressed concern that the conclusion of Oregon's assessment does not represent a balanced consideration of the available information and associated uncertainties. The commenters felt that the conclusion focused largely on the supporting evidence, and did not adequately address uncertainties and underlying assumptions.

Response: In our March 18, 2005, letter to Oregon detailing our comments on its draft assessment (NMFS, 2005b) we recommended clarifying a number of explicit and implicit assumptions made in Oregon's analyses. We, as well as several other reviewers, suggested specific areas where additional information could be evaluated or alternative analyses explored to more transparently test the validity of Oregon's assumptions and to evaluate the sensitivity of the viability model results. Oregon made considerable improvements to the final assessment by including new information and analyses, and acknowledging many of the underlying assumptions and associated uncertainties. It is to be expected that an analysis of the scope of Oregon's assessment cannot address all uncertainties, fully explore the validity of all the assumptions made, or explore all alternative model formulations. The challenge for such a comprehensive assessment is for the authors to clearly state the assumptions being made, to consider the implications of such assumptions, and to disclose any associated uncertainties that may substantively affect the model results. We believe Oregon's viability assessment transparently addresses these issues such that the technical reader can adequately appraise the reliability of, and uncertainties associated with, the report's findings. Oregon's IMST, in its comments on the draft assessment report, concluded that the assumptions and analyses underpinning the State's coho assessment are valid. Our review noted that there are conclusory statements in Oregon's draft assessment that overstate the confidence with which the viability of the Oregon Coast coho ESU can be assessed. However, the ''Additional Considerations'' section of Oregon's final viability assessment discusses the uncertainties and risks associated with the analyses conducted and provides essential context to the report's conclusions.

Comment 5: Several commenters expressed doubt with respect to the coho population structure posited in Oregon's viability analyses. The commenters noted that uncertainties regarding the ESU's population structure contribute to biases in the assessment of population-level and ESU-level extinction risks. These commenters advised that Oregon's assessment should include a discussion of how the report's conclusions might be affected if the presumed population structure proved to be incorrect. One commenter asserted that preliminary results from recent microsatellite DNA genetic analyses indicate that there is substantive population structure for the Oregon Coast coho ESU on a smaller spatial scale than is reflected by Oregon's delineation of independent and dependent populations. The commenter felt that the preliminary genetic data called into question Oregon's assumptions regarding the magnitude and frequency of migration among populations, thereby affecting projections of population persistence and ESU viability.

Response: We conclude that the population structure used in Oregon's assessment represents a reasonable synthesis of the best available scientific information. It is consistent with, and largely derived from, the preliminary historical populations identified by NOAA's Technical Recovery Team (TRT) for the Northern California and Oregon Coasts (Lawson et al., 2004) (although it is unclear whether the population structure used in Oregon's viability analysis is intended to represent the historical or current population structure). The TRT evaluated the spatial relationships of 67 historical populations of Oregon Coast coho, principally on the basis of the geographical and ecological characteristics of the Oregon coastal landscape. The TRT preliminarily identified nine historical populations as functionally independent, nine as potentially independent, and 48 populations as dependent populations. These 67 populations are grouped into geographic strata that (1) serve as a means of defining important geographic, genetic, and ecological diversity within the ESU, and (2) distinguish independent populations that will be the focus of rigorous viability analyses, monitoring, and restoration efforts. The TRT did not attempt to define current populations or to predict what future populations might look like. The likely historical structure of populations provides a framework for comparing the historical and present status of populations, identifying the changes that have affected them, and prioritizing restoration actions. The TRT notes that the preliminarily defined historical population structure may change in the future as viability analyses progress and as new information becomes available.

It is expected that new genetic information (particularly from studies using newer genetic techniques with improved resolution over previous studies) will suggest population spatial structure that is different from that identified by Oregon and the TRT. The genetic structure within an ESU is dynamic, and is influenced by temporal variability in gene flow, genetic drift, and adaptation among populations. These processes will be particularly pronounced for smaller dependent populations on short temporal scales, resulting in genetic population structure on finer spatial scales than that identified for larger independent

populations over evolutionary time scales. We assume that the historical template was sustainable, while noting the uncertainty in this assumption, given that present habitats and environmental conditions have been substantially altered.

Comment 6: Several commenters agreed strongly with Oregon's assessment, and supported the conclusion that the Oregon Coast coho ESU is viable. The commenters noted that Oregon's assessment represents the first effort to synthesize the large quantity of biological and habitat information available for the ESU. The commenters cited recent years of strong returns, reduced harvest rates, improved hatchery management, and an ongoing commitment to conservation measures under the Oregon Plan, as evidence that the ESU is currently viable and measures are in place to ensure it remains so for the foreseeable future.

Response: Oregon's assessment represents an impressive aggregation, analysis and synthesis of population, hatchery, harvest, and habitat data from many state and Federal agencies, and at multiple spatial and temporal scales. We agree with the commenters that Oregon's assessment represents an unprecedented effort for any West Coast ESU of salmon or steelhead, and that it is sufficiently robust that it causes us to reconsider our proposed determination that the ESU is likely to become endangered in the foreseeable future. The findings of Oregon's assessment need to be considered in the context of all the available information, particularly in the context of other viability analyses and the many technical reviews of Oregon's analyses. NMFS' BRT included in its analysis of ESU viability the recent improvements in the ESU's abundance and productivity, improvements in hatchery practices, and sharp reductions in harvest rates. As summarized above, the BRT's findings reflect its considerable uncertainty regarding the threats facing the ESU, particularly in predicting future ocean conditions and determining whether current freshwater habitat conditions are of sufficient quantity and quality to sustain viable populations in the foreseeable future. Oregon's assessment, as well as other information received during the public comment periods, further inform our evaluation of the ESU's status, threats, and related uncertainties.

Comment 7: Several commenters criticized the assertion made in Oregon's viability analysis that Oregon Coast coho populations are inherently resilient at low levels of abundance due to strong productivity compensation at low spawner density (the ''low abundance paradigm''). Commenters noted that: (1) There is little empirical evidence in the scientific literature to support this claim; (2) Oregon's low abundance paradigm has not been thoroughly peer reviewed or tested with other coho data sets; and (3) any conclusions that rest heavily on a new and unverified paradigm are tenuous at best. Commenters observed that the failure of the 1997–1999 brood years to replace themselves on the spawning grounds, despite relatively low abundance levels, appears to contradict Oregon's low abundance paradigm. The commenters argued that Oregon's analyses of data that arguably demonstrate their low abundance paradigm are uncompelling and statistically invalid. Commenters felt that the apparent resilience indicated by the recent increased abundance of Oregon Coast coho is attributable to favorable ocean conditions and substantially reduced harvest rates, rather than a strong compensatory demographic response. The commenters argued that had the favorable ocean conditions and reduced harvest been absent, it is unlikely that the quick increase in coho abundance would have occurred.

Response: We shared many of these concerns with Oregon as part of our comments on its draft assessment report (NMFS, 2005a, 2005b). The data presented by Oregon in support of the low abundance paradigm suffer from low sample size, potentially substantial measurement error, and the fact that Oregon did not adequately analyze whether increased productivity is attributable to a strong compensatory response or is better explained by interannual variability. Although there are data points for a few populations within a given brood year that suggest high productivity at low spawner abundances, there are contrary examples for the same population in different years, or for different populations in the same brood year. Occasional large spikes in productivity are expected when evaluating such recruitment data sets. We believe that single data points are not very informative with regard to assessing extinction risk. The more relevant consideration is whether mean productivity is at or above replacement over the long term through periods of favorable and unfavorable environmental conditions. Oregon candidly acknowledges these issues in the report's technical sections, although overly broad statements in the reports' executive summary and synthesis sections may be misleading.

Oregon responded to our comments by including an alternate recruitment model to test the sensitivity of the model results to the low abundance paradigm (i.e., the assumption that the number of recruits per spawner will increase with decreasing numbers of spawners). Oregon concluded that the removal of this assumption of strong productivity compensation at low spawner densities from the recruitment model did not substantially alter its overall status determination for the ESU. Oregon's additional sensitivity analysis lends support to a conclusion that the ESU is currently viable, even if the low abundance paradigm is insufficiently supported (NMFS, 2005d). However, the small samples sizes and the effects of measurement error continue to contribute to uncertainty in its assessment..

Comment 8: Several commenters were critical of Oregon's assumptions that the current habitat conditions are adequate to support viability. When environmental conditions are unfavorable and population abundances are low, the populations tend to occupy a small range of core habitats. When environmental conditions improve, the populations expand into additional habitat. Oregon's assessment of ESU viability assumes that both the core and expansion habitats are of sufficient quantity and quality to support the populations through poor ocean conditions and to take advantage of favorable ocean conditions. These and other commenters were concerned that the recent few years of improved coho returns during strongly favorable ocean conditions do not provide adequate support for the assumption that current habitat conditions are sufficient to sustain these recent increases.

Response: Oregon acknowledges that current habitat conditions are generally poor, and that relative scarcity of high quality overwinter coho rearing habitat is of concern. Oregon's assessment notes that coho streams within the range of the ESU currently are characterized by a general scarcity of instream large woody debris, a lack of large conifers in riparian areas, reduced connectivity with off-channel habitats and flood plains, and the presence of fine sediments in spawning gravels (Oregon, 2005–3B). However, Oregon reasons that the ESU's demonstrated ability to rebound rapidly from the unfavorable environmental conditions of the 1990s strongly indicates that currently available freshwater habitats are of sufficient quantity and quality to support increased population

productivity, increased population abundance, and increased spatial distribution of populations, and sustain populations through any future downturns in ocean conditions.

In contrast, the slight majority opinion of the 2003 BRT was that the ESU is likely to become endangered, based largely on concerns regarding ability of current habitat conditions to sustain populations during future periods of poor ocean productivity. The BRT noted that habitat quality was generally poor, and habitat capacity was significantly reduced from historical levels. Given the competing reasonable inferences regarding ESU status from limited data we cannot conclude that the ESU is likely to become endangered in the foreseeable because of the ''destruction, modification, or curtailment of its habitat or range.'' This issue is discussed in more detail in the Consideration of ESA section 4(a)(1) Factors section below.

Comment 9: Several commenters were critical of Oregon's consideration of ocean conditions. In Oregon's draft assessment report, Oregon assumed that future unfavorable ocean conditions would be no more severe than those observed in the past. Commenters noted the extreme uncertainty associated with predicting ocean conditions, projected that future ocean conditions may be worse in intensity and longer in duration than that observed in the 1990s, and recommended that Oregon include more severe scenarios of unfavorable ocean conditions in its model simulations.

Response: The commenters are correct that Oregon's assessment assumed that past ocean conditions serve as a reasonable approximation of future ocean conditions. This assumption was clearly stated in Oregon's assessment report, and represents a reasonable formulation of its model to address the question of whether Oregon Coast coho populations are likely to become an endangered species in the foreseeable future, given current and past variability in marine survival rates. As the commenters note, predictions of future ocean conditions are highly uncertain given uncertainties in decadal cycles in ocean-climate conditions and global climate change. Thus any projections of the viability of coho population in the foreseeable future are similarly associated with uncertainty. In our comments on Oregon's draft assessment report, we encouraged Oregon to include model scenarios that contemplate downturns in ocean conditions of greater severity and longer duration than was observed in the 1990s (NMFS, 2005b) to better inform considerations of whether Oregon Coast coho populations are likely to be threatened with extinction in the foreseeable future. Oregon included a sensitivity analysis in its final assessment report with scenarios in which marine survival conditions observed in the 1990s persisted for different lengths of time into the future. The result was that the ESU remained viable even under those conditions where very low marine survival persisted for 24 years. This additional analysis was very informative, providing some of the best support for Oregon's argument that the ESU is viable (NMFS, 2005d).

Comment 10: Several commenters expressed concern that Oregon's assessment does not contemplate the potential cumulative impact of coincident detrimental habitat trends and catastrophic events. Commenters felt that Oregon's assessment was dismissive of the likelihood that such scenarios might occur in the future.

Response: Oregon noted in the final assessment that there is the real possibility that a number of adverse environmental conditions could converge and create a catastrophic threat to the ESU's viability. Oregon argued that such a worst-case scenario occurred in the 1990s, when drought, extreme floods, and the worst marine survival conditions observed in five decades converged. Although the impacts were dramatic, the ESU persisted through this period and rebounded quickly once conditions moderated. Oregon concluded that the life cycle of coho salmon, its population structure and dynamics, and its broad geographic distribution all provide protection and reduce the likelihood that catastrophic events or the convergence of multiple adverse environmental conditions would result in the Oregon Coast coho ESU not being viable in the foreseeable future.

Comment 11: Several commenters were critical of the abundance and productivity criteria applied in Oregon's viability assessment. Commenters were critical of the low abundance threshold chosen and of Oregon's premise that the probability of extinction is largely independent of abundance. Commenters noted that the strong correlation between low abundance and elevated risk of extinction is well established in the conservation biology literature. Commenters cited studies that discuss the ''extinction vortex'' phenomenon in which populations may appear to persist at severely reduced levels of abundance, but lack the demographic capacity and the genetic and ecological diversity to recover. Such populations lack the ability to respond to environmental variability and catastrophic events and slide irrevocably toward extinction. The commenters expressed the concern that coho populations subjected to severe boom and bust cycles of abundance will suffer an erosion of genetic and life-history diversity during ''bottlenecks'' of low population abundance, and that over multiple cycles will become reproductively less fit. The consequence, the commenters felt, would be a gradually diminished ability to fully re-occupy available habitat during favorable environmental conditions, and an ever accumulating risk of population extirpation and ESU extinction. One commenter also stressed that Oregon's minimum population size threshold would provide insufficient nutrient enrichment of streams from salmon carcasses to support essential ecological functions.

Another commenter disagreed with the productivity threshold for the average recruits per spawner during periods of low population abundance. The commenter noted that the productivity threshold (expressed as average recruits per spawner) allows for a 50 percent probability that the population is actually declining when at low abundance. The commenter recommended that a higher level of certainty was advisable for the productivity threshold, given that the resilient productivity at low abundance is a key component of Oregon's assessment (i.e., Oregon's low abundance paradigm).

Response: Oregon's low abundance paradigm effectively emphasizes population productivity and de-emphasizes the abundance parameter in determining probabilities of population persistence. As noted above in the response to Comment 7, we have concerns regarding the validity of Oregon's low abundance paradigm. We agree with the commenters that there is strong support in the scientific literature for abundance being an important determinant of extinction risk (see McElhany et al., 2000). However, we acknowledge that there is insufficient empirical data demonstrating the specific abundance level at which stochastic and depensatory demographic processes dominate and the risk of extinction is expected to increase dramatically. Given this uncertainty, we cannot say that Oregon's abundance threshold is unreasonable.

We agree with the commenter that the productivity thresholds should require a higher level of certainty that the average recruits per spawner at low population

abundance exceeds replacement. A population exactly meeting Oregon's viability thresholds would be at a very low level of abundance, susceptible to stochastic and depensatory demographic processes, and would have a 50 percent chance that its productivity is below replacement. Additionally, the productivity threshold does not take into account the statistical uncertainty in estimating the number of recruits per spawner, so the confidence with which one can conclude that a given population is above the productivity threshold is unspecified.

Comment 12: Several commenters felt that Oregon's consideration of the effects of artificial propagation was insufficient. Commenters felt that Oregon's viability analysis considered only ecological and predation effects of supplementation with hatchery fish, and failed to consider the negative impacts of interbreeding hatchery-origin and natural fish on genetic diversity and reproductive fitness.

Response: The potential ecological and genetic interactions between naturally spawning hatchery-origin and natural populations are complex, uncertain, and influenced by site-specific and program-specific factors. Accordingly, modeling these interactions is exceedingly difficult. In addition to the potential negative ecological and predation effects of hatchery supplementation, Oregon's assessment also acknowledges the potential negative impacts on the reproductive success and genetic diversity of natural populations. Because of the uncertainty surrounding these issues, Oregon concluded that it was not feasible to reliably parameterize hatchery interactions across the ESU, based on simple assumptions regarding relative reproductive success of naturally spawning hatchery fish and their ecological and genetic interactions. Oregon concluded that the best index of hatchery impacts is the resulting performance of naturally spawned fish. Accordingly, Oregon's assessment was based upon counts of only naturally produced recruits. If hatchery fish were responsible for an adverse impact on the overall natural population, this effect would be evident in the estimated productivity of the population. We believe Oregon's approach is clearly articulated and represents a reasonable approach to considering the effects of artificial propagation in its analyses.

Comments on Threats Facing the Species and Efforts Being Made to Protect them

Comment 13: 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 fishery mortality in Oregon Coast coho populations, and likely have contributed to recent population increases. It is unlikely that those harvest controls will change in the future, given that the Pacific Fishery Management Council and, ultimately the Department of Commerce, have influence over harvest. 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 unlikely those reforms will be reversed in the future.

Comment 14: Several commenters felt that Oregon's assessment did not adequately assess the future trends of coho habitat, particularly riparian areas. Commenters expressed concern regarding Oregon's premise that habitat conditions will not degrade in the foreseeable future. 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: A review of Oregon's final assessment and other available information suggests that habitat conditions overall are likely to remain constant in the foreseeable future, given 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, 2005e). 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 are likely to result in slightly 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 (Oregon, 2005–1) (though it is unclear how much restoration is likely to occur in the future, given the uncertainties regarding funding).

Forest practices on state and private land include some improvements over historically harmful practices, such as the establishment of riparian management areas under revisions in the 1990s to Oregon forest practice rules (Oregon, 2005–1). However, there are also offsetting practices that are expected to degrade habitat conditions and complexity, such as shorter harvest rotations, and road construction and logging on unstable slopes and along debris flow paths (NMFS, 2005e). On balance, habitat conditions on these lands are not likely to show significant improvement or decline.

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, 2005e). Oregon's final assessment concludes that ''we are likely to see slow improvements in riparian vegetation on agricultural lands under current rules with uncertainty about how much and

where the changes will occur'' (Oregon, 2005–3B). As discussed further below, any modest improvements may be offset by habitat declines resulting from urban and rural development (NMFS, 2005e). 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 (OOEA, 2004). 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 land management practices used.

Informed by these and other considerations, we conclude that Oregon's findings regarding the future trends of habitat conditions are uncertain, but nonetheless consistent with the best available information (NMFS, 2005e).

Comment 15: One commenter expressed disappointment that Oregon's assessment did not conclude with an agency-by-agency description of areas for improvement and list of specific action items to address these identified deficiencies. The commenter noted that during the planning stages of the Oregon Coast coho assessment, Oregon stated that a principal goal of the effort was to identify specific measures needed to improve the performance of agency actions, to ensure meeting the Oregon Plan's objectives and the recovery needs of Oregon Coast coho.

Response: We agree that Oregon's assessment of protective efforts under the Oregon Plan would be strengthened by describing areas for improvement and a list of specific action items to address these identified deficiencies. We view such an analysis as an important component of effective adaptive management.

Comment 16: One commenter was concerned that Oregon's assessment appeared to equate the failure to detect statistically downward trends in habitat parameters with the absence of such a trend. The commenter noted that Oregon acknowledged that ''our ability to detect a significant trend is minimized by the low statistical power of our analyzes [sic].'' The commenter offered a personal observation that in locations where habitat conservation measures have not been implemented, instream habitat conditions are continuing to degrade. The commenter felt that if continued degradation of the physical habitat is occurring, though not detected statistically by Oregon's analyses, then the assessment's conclusions regarding ESU viability may be uncertain.

Response: As noted in our response above to Comment 4, some issues that were candidly acknowledged in the technical sections of Oregon's assessment were not consistently articulated in the reports' executive summary and synthesis sections. The result is that some conclusory statements, when not considered in the context of the entire report, may be misleading. In the final assessment, Oregon acknowledges that its conclusions are predicated on the assumption that freshwater habitat and environmental conditions in the future will generally correspond to those observed in the past several decades. Oregon cautioned that if survival associated with marine or freshwater conditions trend moderately downward into the future, the assessment should be revisited and adjusted accordingly.

Comment 17: One respondent was concerned that Oregon's assessment did not establish population- and habitat-based performance measures that if met would automatically trigger a specific management response. The commenter felt that without these ''management triggers'' Oregon could not ensure that measures under the Oregon Plan will be effective in conserving Oregon Coast coho populations under any future conditions. The commenter was concerned that the lack of specified management triggers in Oregon's assessment raises questions about Oregon's ability to objectively evaluate and identify areas for improvement and practice adaptive management. The commenter also questioned whether Oregon's assessment can justifiably conclude that future changes in population status will be detected in a timely manner, thus affording the opportunity of effecting the appropriate management response. The commenter noted that the scientific literature indicates that it may take five generations (or approximately 15 years) to detect statistically robust trends among populations within an ESU, and that there are time delays in implementing necessary management actions. Moreover, there is an additional time lag to determine whether the expected biological response may be resolved. Given the time frames involved, the commenter expressed doubt that a sufficient monitoring and evaluation system with management triggers was in place to ensure that necessary management adjustments are implemented before the status of Oregon Coast coho is irretrievably compromised.

Response: We agree with the commenter's concern that Oregon's assessment did not include triggers for specific management actions. In our March 18, 2005, letter to Oregon detailing our comments on its draft assessment report we recommended that the final report include specific management triggers. We were disappointed that the final report did not contemplate such management triggers.

Comment 18: 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, 2005e). 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.

ESA Standards for Listing Determinations

Comment 19: Two commenters expressed concern regarding the appropriate statutory standard that must be satisfied if we were to issue a ''not warranted'' final listing determination for the Oregon Coast coho ESU. One commenter stressed that the appropriate standard for such a determination is ''recovery.'' The commenter noted that the requirements of a recovery plan under ESA section 4(f)(1) include: (1) A description of such site-specific management actions as may be necessary to achieve the plan's goal for

the conservation and survival of the species; and (2) objective, measurable criteria which, when met, would result in a determination that the species be removed from the list of threatened and endangered species. The commenter stressed that a ''not warranted'' finding for the Oregon Coast coho ESU must be based on quantitative information that specific management actions have been successful in addressing the factors responsible for the ESU's decline, and on analyses demonstrating that the improved viability of the ESU is attributable to these actions and not fortuitous ocean conditions supporting high marine survival. The commenter acknowledged that the *Alsea* ruling effectively removed Oregon Coast coho from the protections of the ESA, but asserted that since the ESU was listed previously we should adopt a precautionary approach and not evaluate the ESU's listing status as if it was being reviewed for the first time.

Response: The statutory standards for recovery planning and delisting determinations are not applicable to the ESU. Section 4(f) governs the adoption of recovery plans for listed species. As the commenter noted, and as is summarized above in the Background section, the 2001 *Alsea* ruling set aside the 1998 threatened listing of the Oregon Coast coho ESU. Listing and delisting decisions under the ESA, such as this notice, are governed under section 4(b) of the ESA which states that we shall determine whether a species is threatened or endangered because of any of five factors (section 4(a)(1)(A)-(E)), solely on the basis of the best scientific and commercial data available after reviewing the status of the species and taking into account those efforts, if any, being made to protect the species (section 4(b)(1(A)).

The statutory language and legislative history do not prescribe a ''precautionary'' approach as recommended by the commenter, other than to define what qualifies as a threatened or endangered species. A species is threatened or endangered because of five factors specified in ESA Section 4(a)(1). ''Endangered'' is defined as ''in danger of extinction throughout all or a significant portion of its range,'' and ''threatened'' is defined as ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' We interpret the term ''likely'' to mean that the best available information must indicate that a species is more likely than not to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

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). We find that five hatchery stocks are part of the ESU: the North Umpqua River (ODFW stock #18), Cow Creek (ODFW stock #37), Coos Basin (ODFW stock #37), and the Coquille River (ODFW stock #44) coho hatchery programs, as well as the progeny of the Calapooya Creek coho hatchery program (which is no longer in operation).

On June 14, 2004, we proposed that five artificial propagation programs are part of the ESU (69 FR 33102), including the North Fork Nehalem River (ODFW stock #32) coho hatchery program, should be considered part of the ESU. Informed by our analysis of the comments received from ODFW (see Comment 1 and response, above), we conclude that the North Fork Nehalem River coho hatchery stock (ODFW stock #32) is not part of the Oregon Coast coho ESU. Similarly, the Fishhawk Lake coho hatchery stock (ODFW stock #99), also propagated at the North Fork Nehalem Hatchery, is not part of the ESU. In the June 14, 2004, proposed rule we did not consider hatchery coho from the Calapooya Creek (Umpqua River Basin) artificial propagation program because it is no longer in operation. Informed by ODFW's comments, however, we now find that the progeny of the Calapooya Creek coho hatchery program, propagated between 2001 and 2003, are part of the Oregon Coast coho ESU (see Comment 1 and response, above).

Assessment of the Species' Status

As noted in the ''Statutory Framework for Making ESA Listing Determinations'' section, above, 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 make our best prediction about the species' future viability. Below we summarize the information we evaluated in reviewing the status of the Oregon Coast coho ESU.

Biological Review Team Findings

The data that became available since the previous status review on Oregon Coast coho was conducted (NMFS, 1997a) represent some of the best and worst years on record. Yearly adult returns for the Oregon Coast coho ESU have been in excess of 160,000 natural spawners from 2001 through 2004, far exceeding the abundance observed for the past several decades. These recent encouraging increases in spawner abundance were preceded by 3 consecutive brood years (1994–1996) 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 are the only such instances that have been observed 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 recent increases in natural spawner abundance have 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 the recent dramatic increases in spawner abundance are encouraging, the long-term trends in ESU productivity are 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 of Oregon Coast coho populations (PFMC, 1998), harvest cannot be significantly further reduced so as to compensate for declining productivity due to other factors. The BRT was concerned that if the long-term decline in productivity reflects 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 naturally spawned component of the Oregon Coast coho ESU is ''likely to become endangered within the foreseeable future.'' However, a substantial minority of the BRT concluded that the ESU is ''not in danger of extinction or likely to become endangered within the foreseeable future.'' The minority felt that the large number of spawners in 2001–2002 and the high projected abundance for 2003 demonstrate that this ESU is not ''in danger of extinction'' or ''likely to become endangered within the foreseeable future.'' Furthermore, the minority felt that recent strong returns following 3 years of recruitment failure demonstrate that populations in this ESU exhibit considerable resilience.

Consideration of Artificial Propagation

Our review of hatchery programs that are part of the ESU concluded that they collectively do not substantially reduce the extinction risk of the ESU in-total (NMFS, 2005g, 2004b, 2004c; see proposed rule for a more detailed explanation of this assessment, 69 FR 33102, June 14, 2004). Our final determination that the North Fork Nehalem coho hatchery program is not part of the ESU does not substantially alter our previous conclusion that artificial propagation does not contribute appreciably to the viability of the ESU. Additionally, our inclusion of the progeny of a small research hatchery program that is no longer in operation (i.e., the Calapooya Creek coho hatchery program) does not substantially affect the extinction risk of the ESU in-total.

Oregon's Viability Assessment

Oregon's viability assessment concluded that the Oregon Coast coho ESU is viable under current habitat conditions and management practices. Oregon also concluded that coho populations exhibit strong productivity compensation when populations are at low abundance levels, conferring resilience to future downturns in ocean conditions for marine survival and/or catastrophic events. Oregon's viability assessment is conceptually consistent with the opinion of a substantial minority of the BRT.

As discussed in the above summary of the issues raised by public comments, many commenters are concerned about several of the assumptions underlying Oregon's viability assessment. The most substantive of these concerns are whether Oregon's low abundance paradigm is valid, whether there is and will continue to be freshwater habitat of sufficient quality and quantity to support viable coho populations through future environmental cycles, and the uncertainty associated with projections of future ocean-climate conditions for coho populations. These concerns do not invalidate Oregon's conclusion that the ESU is viable; rather, they underscore that there is considerable uncertainty associated with any extinction risk assessment for Oregon Coast coho.

Preliminary Results of Oregon Coast Coho Recovery Planning

NMFS' 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. The TRT recently provided a preliminary report on its progress in developing these products for the Oregon Coast coho ESU (NMFS, 2005f). The TRT's preliminary report underscores 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''). The TRT's preliminary advice, subject to change upon further testing and review, is not inconsistent with Oregon's viability assessment.

Biological Implications of Recent Ocean-Climate Conditions

In an August 12, 2005, memorandum NMFS' 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, 2005c). 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. 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 is unclear whether this delayed onset of coastal upwelling can 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 is relatively confident that the negative biological implications of recent ocean conditions for the Oregon Coast coho ESU may be dramatic over the next few years. Although the memorandum predicts conditions in the near term to be negative, it does not offer any projections regarding ocean conditions or implications on Oregon Coast coho in the foreseeable future.

Conclusion Regarding the Status of the Oregon Coast Coho ESU

In our June 14, 2004, proposed threatened determination for the Oregon Coast coho ESU (69 FR 33102), we based our finding on the BRT's slight majority's conclusion that the ESU is ''likely to become endangered in the foreseeable future.'' We noted that the recruitment failure observed during the 1994–1996 brood years (returning in 1997–1999, respectively) was followed by near record recruitment for the 1997–1999 brood years (returning in 2000–2002, respectively). We noted that the

recent returns are extremely encouraging but that these increases need to be sustained through additional brood years to resolve remaining concerns regarding the ESU's viability, due to uncertainties in future ocean and freshwater habitat conditions. We stated that additional data demonstrating that the freshwater habitat can support high abundances of natural spawners and sustain recent abundance levels would help resolve these uncertainties regarding the ESU's resilience under less favorable ocean conditions.

In contrast, Oregon's assessment concluded that current freshwater conditions are adequate to support the ESU's persistence, and that the ESU is resilient to a prolonged period of poor ocean conditions. There is considerable uncertainty regarding the adequacy of current habitat conditions, but we find Oregon's conclusion reasonable, in light of available information and Oregon's analysis of that information and in light of the fact that the BRT considered this question unresolved. Oregon's analysis indicating that the ESU is resilient to prolonged poor ocean conditions does not resolve the uncertainties about future ocean conditions, but it does diminish the concern created by that uncertainty.

Based on the historical record and recent observations, we expect ocean and freshwater habitat conditions to exhibit variability into the future, and the abundance and productivity of coho populations to fluctuate in response to this variability. The available information, however, does not indicate that unfavorable ocean and freshwater conditions are expected to predominate in the foreseeable future, or that the average abundance and productivity trends for coho populations over the foreseeable future is expected to be downward. The August 2005 memorandum regarding the biological implications of recent anomalous ocean conditions concludes that we can expect reductions (of an unspecified magnitude) in Oregon Coast coho populations returns for the next few years, but does not prognosticate on ocean-climate conditions or population returns into the foreseeable future (NMFS, 2005c).

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) states that we must determine if a species 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, 1997a, ''Coastal coho habitat factors for decline and protective efforts in Oregon;'' NMFS, 1997b, ''Factors Contributing to the Decline of Chinook Salmon—An Addendum to the 1996 West Coast Steelhead Factors for Decline Report;'' NMFS, 1996, ''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, Oregon concluded in its final assessment that the current condition of coho habitats is sufficient to support viable populations and a viable ESU, as evidenced by the ability of populations that were depressed during unfavorable environmental conditions during the 1990s to rebound once conditions moderated. This conclusion is different from the conclusion of the slight majority of the BRT, which relied on the uncertainty about the adequacy of current conditions in support of its finding that the ESU was likely to become an endangered species within the foreseeable future. We have considered both the majority and minority BRT opinions, the information and analysis in Oregon's final assessment, and the comments of NMFS scientists and staff (NMFS, 2005e), the public, and peer reviewers on Oregon's draft and final assessments. Based on this consideration, we conclude that the ESU is not likely to become an endangered species in the foreseeable future because of present destruction, modification or curtailment of its habitat or range (see response to Comment 8).

Regarding the second issue, the threat of future habitat declines, we describe in the response to Comment 14 and in NMFS (2005e) that Oregon's analysis and other available information demonstrate that there are some habitat elements that are likely to improve, some that are likely to decline, and others that are likely to remain in their current condition, and that there is a high level of uncertainty associated with projections of future habitat conditions. Based on these considerations, we find reasonable Oregon's conclusion that habitat conditions overall are not likely to worsen. This conclusion is different from the conclusion of the slight majority of the BRT, which relied in part on the uncertainty about the future habitat conditions to support a conclusion that the ESU is likely to become an endangered species. We have considered: (1) The BRT's majority and minority opinions; (2) the information and analysis in Oregon's final assessment; and (3) the comments of NMFS scientists and staff, the public, and peer reviewers on Oregon's draft and final assessments. Based on this consideration, we conclude that the

ESU is not likely to become an endangered species in the foreseeable future because of threatened destruction, modification or curtailment of its habitat or range information.

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 achieved 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 through the Pacific Fisheries Management Council (PFMC) have imposed conservative restrictions on direct and indirect 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 zero and eight percent during critically low spawner abundance, and may increase to a maximum exploitation rate of 45 percent under high survival and abundance conditions (Oregon, 2005–1). 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, 2005–1). We agree with the BRT's finding that overutilization has been effectively addressed for Oregon Coast coho populations. We conclude that the ESU is not in danger of extinction or likely to become endangered in the foreseeable future because of overutilization.

C. Disease or Predation

Past species introductions and habitat modifications have resulted in increased non-native predator populations, notably in coastal lake habitats. Oregon's final assessment identified exotic fish species as the primary limiting factor for three lake coho populations, although it was not identified as a factor limiting other coho populations or the ESU as a whole. 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. Although predation is a local concern for some populations, we conclude that the ESU is not in danger of extinction or likely to become endangered because of predation.

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 are 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 reforms already implemented by Oregon efforts 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. It is unlikely that the Oregon Coast coho ESU is in danger of extinction or likely to become endangered because of disease.

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 change in the future, particularly because of the involvement of the PFMC and NMFS. Regulations governing land use are more problematic, as discussed in our response to comments, above. A wide range of land uses and other activities affect salmon habitat, some 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. Overall, we conclude that Oregon coast coho ESU is not in danger of extinction, or likely to become endangered in the foreseeable future, because of the inadequacy of existing regulatory mechanisms.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Natural variability in ocean and freshwater conditions have at different times exacerbated or mitigated the effects on Oregon Coast coho populations of habitat limiting factors. As discussed in the ''Assessment of ESU Viability'' section above, there is considerable uncertainty in predicting ocean-climate conditions into the foreseeable future and their biological impacts on the Oregon Coast coho ESU. It is likely that recent anomalous ocean conditions will result in decreased returns for Oregon coast coho populations for the next few years (NMFS, 2005c). However, variability in ocean-climate conditions is expected, and coho populations are similarly expected to fluctuate in response to this natural environmental variability. It is uncertain whether unfavorable ocean conditions will predominate in the foreseeable future. Moreover, Oregon's final assessment tested the sensitivity of the ESU to a prolonged period of poor ocean conditions and found it was resilient. The slight majority of the BRT relied on uncertainty about future ocean conditions in concluding that the ESU was likely to become endangered in the foreseeable future. We have considered both the BRT's majority and minority opinions; the comments of NMFS staff and scientists, peer reviewers, and the public on Oregon's final assessment; and the sensitivity analysis conducted by Oregon. We conclude the ESU is not in danger of extinction or likely to become endangered in the foreseeable future because of future poor ocean conditions.

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 (Oregon, 2005–1). 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 on the spawning ground has been reduced to below 10 percent in all but two populations in the ESU (Oregon, 2005–1). All hatchery coho releases in the ESU are now marked, affording improved monitoring and assessment of 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. In our June, 14, 2004, proposed listing for the Oregon Coast coho ESU (69 FR 33102), we evaluated 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. The reader is referred to the June 14, 2004, proposed rule for a summary of efforts other than those under the Oregon Plan being made to protect Oregon Coast coho populations (69 FR 33102, at 33142). We included the best information that was available at the time of the proposal concerning the certainty of implementation and effectiveness of measures under the Oregon Plan, among several other protective efforts. We noted in our assessment of protective efforts that Oregon was in the process of conducting a comprehensive assessment of the viability of the Oregon Coast coho ESU and of the contributions of the Oregon Plan in conserving the ESU.

Based on the available information we cannot conclude that habitat conditions for this ESU will improve in the future (see the discussion under Comment 14 above). At the same time, available evidence suggests it is unlikely that habitat conditions for the ESU are likely to degrade in the foreseeable future, so as to pose a risk to the survival of the Oregon Coast coho ESU. Harvest reductions and improvements in hatchery management have been fully implemented and their effectiveness is manifested in the improved status of Oregon Coast coho populations. The benefits of these noteworthy accomplishments under the Oregon Plan were fully considered in the BRT's assessment of ESU extinction risk.

Conclusion

In making our final listing determination for the Oregon Coast coho ESU we are making several predictions about the future. We must predict the future persistence of the ESU assuming that current threats to the species, as stated in Section 4(a)(1) of the ESA, continue into the future, and next consider whether that assumption is correct—that is, whether current natural and human-caused threats to the species are likely to continue, grow worse, or improve in the future. We then must predict how either the continuation or change of current threats will affect the ESU's persistence. In our response to comments above, and in our consideration of whether Oregon Coast coho warrant listing, we address where the uncertainties lie, both in our assessment of the ESU's persistence under current threats and in our projection of likely future threats to the species, and how we have treated the uncertainties.

The best available information on the biological status of Oregon Coast coho indicates that the ESU is not in danger of extinction throughout all or a significant portion of its range (i.e., the ESU does not satisfy the definition of an endangered species under the ESA). A species is considered ''threatened'' if it is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' As noted in the response to Comment 19, above, we interpret the term ''likely'' to mean that the best available information must indicate that a species is more likely than not to become an endangered species within the foreseeable future throughout all or a significant portion of its range. While acknowledging the uncertainties noted above, particularly regarding the adequacy of current habitat conditions to support ESU viability, we conclude from our review of information regarding factors affecting the species that the Oregon Coast coho ESU is not likely to become endangered in the foreseeable future as a consequence of: the loss or degradation of its habitat or curtailment of its range; overutilization; disease or predation; inadequacy of existing regulatory mechanisms; or other natural or human-made factors. Accordingly, we determine that the Oregon Coast coho ESU does not warrant listing under the ESA at this time and therefore withdraw the proposed listing.

Classification

National Environmental Policy Act (NEPA)

ESA listing decisions are exempt from the requirements 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*, 675 F. 2d 825 (6th Cir. 1981). Thus, we have determined that the final listing determination for the Oregon Coast coho ESU described in this notice is exempt from the requirements of the NEPA of 1969.

Executive Order (E.O.) 12866, Regulatory Flexibility Act, and Paperwork Reduction Act

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the final listing determination described in this notice. In addition, this rule is exempt from review under E.O. 12866. This final rule does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act.

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

E.O. 13084 requires that if NMFS issues a regulation that significantly or uniquely affects the communities of Indian tribal governments and imposes substantial direct compliance costs on those communities, NMFS 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 described in this notice 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 this determination. Nonetheless, we will continue to inform potentially affected tribal governments, solicit their input, and coordinate on future management actions.

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 determination.

Withdrawal of Proposed Critical Habitat

On December 14, 2004, we proposed critical habitat for the Oregon Coast coho ESU (69 FR 74572). Because we are withdrawing the proposed listing determination, we are also withdrawing the proposed critical habitat designation.

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).

Authority: 16 U.S.C. 1531 *et seq.*

Dated: January 11, 2006.

James W. Balsiger,

Acting Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

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