TODD D. TRUE (WSB #12864)
AMY WILLIAMS-DERRY (WSB #28711)
Earthjustice
705 Second Avenue, Suite 203
Seattle, WA 98104
(206) 343-7340
(206) 343-1526 *[FAX]*
ttrue@earthjustice.org
awilliams-derry@earthjustice.org

Attorneys for Plaintiff Northwest Environmental Advocates

UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WASHINGTON

NORTHWEST ENVIRONMENTAL ADVOCATES, Plaintiff, v. NATIONAL MARINE FISHERIES SERVICE and UNITED STATES ARMY CORPS OF ENGINEERS, Defendants.	Civ. No. 04-0666C FIRST AMENDED COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

PRELIMINARY STATEMENT

1. This action seeks review of two biological opinions issued by NOAA Fisheries to conclude consultation with the U.S. Army Corps of Engineers (the "Corps") under Section 7 of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536, for dredging and disposal activities in the Columbia and Willamette Rivers, the Columbia River estuary, and the Pacific Ocean. This action also seeks review of the Corps' August 1999 Final Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement ("1999 FEIS"), which was supplemented by the Corps' January 2003 Final Supplemental Integrated Feasibility Report and

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Environmental Impact Statement ("FSEIS")[1], the Corps' 2004 Record of Decision ("ROD") for the Lower Columbia River Channel Improvement Project ("Channel Deepening Project" or "Project"), and the Corps' June 19, 1998 and November 3, 1998 ROD for the Integrated Dredged Material Management Study and Supplemental Environmental Impact Statement for the Columbia and Lower Willamette River Federal Navigation Channel (the "DMMP/SEIS") under the National Environmental Policy Act, 42 U.S.C. §§ 4321 – 4370 ("NEPA"). These activities harm salmon and steelhead listed as threatened and endangered under the ESA and further harm the severely altered Lower Columbia River.

2. The 2002 biological opinion for the Corps' proposed Columbia River Federal Navigation Channel Improvements Project ("Channel Deepening BiOp") concluded that, despite causing adverse, and largely unknown, effects to an already highly degraded habitat baseline for twelve species of ESA-listed salmon and steelhead, the Channel Deepening Project is not likely to jeopardize the continued existence of these species or appreciably diminish the value of their critical habitat. This action challenges the Channel Deepening BiOp because NOAA Fisheries has, inter alia: (1) failed to insure that the actions addressed in the BiOp are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat for such species; (2) failed to provide information detailing the effects of the actions on threatened or endangered species and their critical habitat; (3) failed to use the best scientific and commercial data available; (4) relied improperly on proposed research, monitoring, and adaptive management processes as mitigation to offset the Project's impacts; (5) failed to accurately or adequately describe, delineate, or

[1] Because the 2003 FSEIS supplements and incorporates by reference the 1999 FEIS, Plaintiff refers to the 1999 FEIS and the 2003 FSEIS collectively in this complaint as the "FSEIS."

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consider the environmental baseline of the area that includes the agency action; and (6) failed to quantify take in the incidental take statement issued with the BiOp.

3. This action also seeks review of NOAA Fisheries' biological opinion for the Corps' Columbia River Navigation Channel Operation and Maintenance Program, ("O&M BiOp"). That biological opinion concluded that the continued maintenance of a 40-foot deep navigation channel will not jeopardize the same 12 listed stocks without ever analyzing the habitat baseline to which the project will be added or the adverse impacts on listed fish of conditions in the already degraded river system and estuary.[2] This action challenges the O&M BiOp because NOAA Fisheries has, inter alia: (1) failed to accurately or adequately describe, delineate or consider the environmental baseline, including, but not limited to, the effects of maintaining a 40-foot deep navigation channel in the Columbia River estuary and the effects of other structures and activities that have altered the estuary; (2) failed to provide information detailing the effects of the actions on threatened or endangered species and their critical habitat; (3) failed to insure that the actions are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of their critical habitat; (4) failed to use the best scientific and commercial data available; and (5) failed to quantify take in the incidental take statement issued with the BiOp.

4. This action challenges the Corps' FSEIS and ROD for the Channel Deepening

[2] The navigation channel is divided into four portions, each of which is maintained to a different depth: the Mouth of the Columbia River Project from river mile -3 to 3 (maintained to 55 feet); the Columbia and Lower Willamette River Project from river mile 3 to 106.5 in the Columbia River and river mile 0 to 11 in the Willamette River (maintained to 40 feet); the Vancouver to the Dalles Project from river mile 106.5 to 192 (maintained to 17 feet to Bonneville Dam, and to 14 feet from Bonneville Dam to The Dalles Dam); and The Dalles Dam to McNary Dam Project from river mile 192 to 292 (maintained to 14 feet). For purposes of simplicity, NWEA will refer to the existing navigation channel as being 40 feet deep.

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(206) 343-7340

Project and the DMMP/SEIS for operation and maintenance dredging and its ROD because the Corps has, inter alia: (1) failed to take a hard look at the environmental consequences of these actions; (2) has presented a factually incorrect, incomplete, and fundamentally misleading economic justification for selecting its preferred alternatives; (3) has failed to analyze the cumulative effects and the effects of interrelated and interdependent activities in conjunction with both of these actions; and (4) failed to consider a reasonable range of alternatives to these proposed actions.

5. For at least these reasons, this action seeks a declaration that the Channel Deepening and O&M BiOps' no-jeopardy/no-adverse modification findings and the accompanying incidental take statements violate ESA section 7, 16 U.S.C. § 1536, and are arbitrary, capricious, an abuse of discretion and not in accordance with law in violation of the Administrative Procedure Act ("APA"), 5 U.S.C. § 706(2)(A). This action also seeks a declaration that the Corps' FSEIS and ROD for the Channel Deepening Project and the DMMP/SEIS and its ROD violate NEPA, and are arbitrary, capricious, an abuse of discretion and not in accordance with law in violation of the APA, 5 U.S.C. § 706(2)(A). Finally, this action seeks an injunction directing NOAA to withdraw the biological opinions and rescind the accompanying incidental take statements and directing the Corps to withdraw its ROD and FSEIS for the Channel Deepening Project and to withdraw the DMMP/SEIS and its ROD and prepare a new analysis that complies with NEPA.

6. The relief plaintiff seeks is necessary to preserve the status quo, to correct illegal final agency actions, to prevent the irretrievable and irreversible commitment of resources, and to prevent unlawful agency actions that will result in irreparable harm to the environment and salmonid species listed for protection under the ESA.

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PARTIES

7. The plaintiff in this action is NORTHWEST ENVIRONMENTAL ADVOCATES ("NWEA"), a nonprofit, environmental membership organization that focuses on protection of water quality and riparian habitat in Washington and Oregon. NWEA has worked to bring attention to and solve the environmental problems facing the Lower Columbia River since 1988, including co-chairing the Lower Columbia River Bi-State Water Quality Program, advocating for National Estuary Program designation, preventing new pollution sources to the river, seeking appropriate water quality standards and clean-up plans for pollution violations in the river, and publishing the educational map Columbia River: Troubled Waters. Many of NWEA's members live, work, and recreate along, near, and on the Lower Columbia River and will be directly and adversely affected by the defendants' failure to comply with the Endangered Species Act and the National Environmental Policy Act.

8. Plaintiff and its members use the Columbia River, its tributaries and estuary, and the Pacific Ocean for recreational, scientific, aesthetic, and commercial purposes. Plaintiff and its members derive or, but for the threatened and endangered status of Snake and Columbia River salmon and steelhead and the degraded state of the Columbia River estuary, would derive recreational, scientific, aesthetic, and commercial benefits from this area and from the existence in the wild of salmon and steelhead through wildlife observation, study and photography, and recreational fishing within the Columbia River estuary, the Columbia River basin, and the Pacific Ocean.

9. The above-described aesthetic, conservation, recreational, commercial, scientific, spiritual, and procedural interests of plaintiff and its respective members have been, are being, and, unless the relief prayed for herein is granted, will continue to be adversely affected and irreparably injured by the failure of defendants to comply with their obligations to ensure that the

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survival of these listed species is not further jeopardized by federal action and to comply with environmental and procedural statutes designed to minimize needless damage to the environment. Plaintiff has no adequate remedy at law.

10. Defendant National Oceanic and Atmospheric Administration Fisheries ("NOAA Fisheries" or "NOAA") is an agency of the United States Department of Commerce responsible for administering the provisions of the Endangered Species Act with regard to threatened and endangered marine species, including the species of threatened and endangered salmon and steelhead that inhabit the Columbia River, its estuary and the Pacific Ocean.[3]

11. Defendant United States Army Corps of Engineers ("Corps") is an agency of the United States Army and the Department of the Defense that constructs and operates federal engineering projects throughout the United States, primarily in rivers, coasts and wetlands. The Corps has primary management authority over the operation and maintenance of the federal navigation projects in the Lower Columbia River at issue in this case.

JURISDICTION AND VENUE

12. This Court has jurisdiction over this action under 5 U.S.C. §§ 701-706 (Administrative Procedure Act), 28 U.S.C. § 1331 (federal question), § 2201 (declaratory judgment), and § 2202 (injunctive relief).

13. Venue is properly vested in this Court under 28 U.S.C. § 1391(e) because members of the plaintiff organization reside in this district and these members and plaintiff do business here. In addition, the defendant NOAA Fisheries has its Northwest regional office, which developed and issued the challenged biological opinions, in this district, the Project and

[3] At the time the challenged biological opinions were written, NOAA Fisheries was known as the National Marine Fisheries Service ("NMFS"). While some documents refer to defendant by this name, for the sake of clarity, plaintiff will use NOAA Fisheries unless quoting directly from a document.

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maintenance dredging under the DMMP occur in this district, and a substantial part of the events or omissions giving rise to the claims in this case occurred in this district.

STATUTORY FRAMEWORK

14. The Administrative Procedure Act ("APA") authorizes this Court to review final agency action and mandates that the Court hold unlawful and set aside such action, findings, and conclusions when they are arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with law. 5 U.S.C. § 706(2)(A). Biological opinions issued pursuant to Section 7 of the ESA, including the Channel Deepening BiOp and the O&M BiOp, and environmental impacts statements prepared pursuant to NEPA are reviewed under this provision of the APA. See, e.g., Bennett v. Spear, 520 U.S. 154, 175 (1997).

I. THE ENDANGERED SPECIES ACT

15. Section 7 of the ESA prohibits agency actions that may jeopardize the survival and recovery of a listed species or adversely modify its critical habitat:

> [e]ach federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary . . . to be critical . . . .

16 U.S.C. § 1536(a)(2).

16. Section 9 of the ESA prohibits "take" of listed species by anyone, including federal agencies. 16 U.S.C. § 1538. "Take" means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect." 16 U.S.C. § 1532(19). NOAA Fisheries has defined "harm" to include "significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering." 50 C.F.R. § 222.102. "Take" by federal agencies is

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permitted only if the agency receives an Incidental Take Statement ("ITS") pursuant to Section 7(b)(4), upon completion of formal consultation. 16 U.S.C. § 1536(b)(4).

17. Section 7 of the Act also establishes an interagency consultation process to assist federal agencies in complying with their duty to avoid jeopardy to listed species or destruction or adverse modification of critical habitat. Under this process, a federal agency proposing an action that "may affect" a listed species, including salmon and steelhead, must prepare and provide to the appropriate expert agency, here NOAA Fisheries, a "biological assessment" of the effects of the proposed action. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). For those actions that may adversely affect a species, NOAA Fisheries must review all information provided by the action agency, as well as any other relevant information, to determine whether the proposed action is likely to jeopardize a listed species or destroy or adversely modify its designated critical habitat. 50 C.F.R. § 402.14(h)(3). This determination is set forth in a biological opinion from NOAA Fisheries. Id.; 16 U.S.C. § 1536(b)(3)(A).

18. In formulating its biological opinion, NOAA Fisheries must evaluate the "effects of the action" together with "cumulative effects" on the listed species. 50 C.F.R. §§ 402.14(g)(3)-(4). This multi-step analysis requires NOAA Fisheries to consider:

a. the direct, indirect, interrelated and interdependent effects of the proposed action;

b. the "environmental baseline," to which the proposed action will be added. This baseline includes "all past and present impacts of all Federal, State, or private actions and other human activities in the action area; the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation; and the impact of State or private actions which are contemporaneous with the consultation in progress," and;

c. any "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation."

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50 C.F.R. § 402.02.

19. NOAA Fisheries must also determine whether the proposed action will result in the destruction or adverse modification of critical habitat. 50 C.F.R. § 402.14(g)(4). This is a separate determination from whether the action will jeopardize the continued existence of the species. The regulations implementing the ESA define "destruction or adverse modification" to mean "a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." 50 C.F.R. § 402.02.

20. If, based upon an analysis of these factors, NOAA Fisheries concludes that the proposed action is likely to jeopardize a listed species, or destroy or adversely modify its critical habitat, NOAA must identify and describe any reasonable and prudent alternative ("RPA") to the proposed action that it believes would avoid jeopardy and adverse modification. 16 U.S.C. § 1536(b)(3)(B). If NOAA Fisheries believes that there is no reasonable and prudent alternative to the proposed action, its biological opinion must so state. 50 C.F.R. § 402.14(h)(3).

21. If NOAA Fisheries finds that either a proposed action "[]or implementation of any reasonable and prudent alternatives[] and the resultant incidental take of listed species" will not cause jeopardy or destruction or adverse modification of critical habitat, it will also issue an incidental take statement ("ITS") for any take of a listed species that is likely to occur. 50 C.F.R. § 402.14(i). The ITS must, among other things "(i) specif[y] the impact, i.e., the amount or extent, or such incidental taking on the species[.]" 50 C.F.R. § 402.14(i)(1). If the action agency exceeds the amount or extent of taking specified in the ITS, it is required to reinitiate formal consultation with NOAA Fisheries. 50 C.F.R. §§ 402.14(i)(4); 402.16. Take of listed species

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that is consistent with an incidental take statement is not subject to the prohibition against take in section 9 of the ESA. 16 U.S.C. § 1536(b)(4).

22. Under ESA section 7(a)(1), federal agencies also must use their authorities to further the purposes of the Act by carrying out programs for the conservation of listed species. 15 U.S.C. § 1536(a)(1). As defined by the ESA, the term "conservation" means to use all necessary methods and procedures to bring any endangered or threatened species to the point at which the measures provided pursuant to the ESA are no longer necessary. 16 U.S.C. § 1532(3). As a part of its responsibility in preparing a biological opinion, NOAA Fisheries must set forth any conservation recommendations it believes are necessary to comply with section 7(a)(1). 50 C.F.R. § 402.14(j).

II. THE NATIONAL ENVIRONMENTAL POLICY ACT

23. The National Environmental Policy Act, 42 U.S.C. §§ 4321-4347 is "our basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). Under NEPA, agencies are required to prepare an environmental impact statement for any major federal action significantly affecting the human environment. 42 U.S.C. § 4332(C). The EIS requirement is designed to ensure that NEPA's environmental protection policies are integrated into environmental decisionmaking, 40 C.F.R. § 1501.1(a), and provide a means by which decisionmakers, including Congress, and the public can evaluate the environmental impacts of government proposals. 40 C.F.R. § 1502.1.

24. NEPA requires that an EIS contain a thorough discussion of the "alternatives to the proposed action." 42 U.S.C. §§ 4332(C)(iii); 4332(E). The discussion of alternatives is "the heart" of the NEPA process, and is intended to provide a "clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14. NEPA's implementing regulations require the agency to "[r]igorously explore and objectively evaluate all reasonable alternatives."

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40 C.F.R. § 1502.14(a). An agency's failure to consider a reasonable alternative is fatal to an agency's NEPA analysis. An agency cannot reject an alternative simply because it is "not within the jurisdiction of the lead agency" or because it is outside the bounds of existing congressional authorization. 40 C.F.R. § 1502.14(c). Moreover, an agency may not decline to evaluate an alternative simply on the grounds that it is not a "complete solution" to the agency's goals. Natural Resources Defense Council, Inc. v. Morton, 458 F.2d 827, 836 (D.C.Cir. 1972).

25. To satisfy the requirement that it take a "hard look" at the environmental consequences of its actions, an agency must engage in a "reasoned evaluation of the relevant factors" to ensure that its ultimate decision is truly informed. Greenpeace Action v. Franklin, 14 F.3d 1324, 1332 (9th Cir. 1992). An agency's failure to include and analyze information that is important, significant, up-to-date, available, or essential renders an EIS inadequate. 40 C.F.R. § 1500.1 ("The information must be of high quality.").

26. NEPA's implementing regulations require the scope of a federal agency's analysis to include "connected actions" that "automatically trigger other actions," "cannot or will not proceed unless other actions are taken previously," or "are interdependent parts of a larger action and depend on the larger action for their justification." 40 C.F.R. § 1508.25.

27. Federal agencies must also analyze both the "direct effects, which are caused by the action and occur at the same time and place" and the "indirect effects, which are caused by the action and are later in time or farther removed in distance," of its actions. 40 C.F.R. § 1508.8 (a), (b).

28. NEPA's regulations also require federal agencies to consider the cumulative environmental impacts of their actions in their environmental analyses. 40 C.F.R. § 1508.25(c). A cumulative impact is defined as:

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> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7.

29. Each of these principles apply to the economic as well as environmental analyses included in an EIS. Although the purpose of NEPA is to evaluate the environmental rather than the economic consequences of an action, "[w]hen an [EIS] is prepared and economic or social and natural or physical environmental effects are interrelated, then the [EIS] will discuss all of these effects on the human environment." 40 C.F.R. § 1508.14; 40 C.F.R. § 1508.8. An economic analysis or cost-benefit statement that includes erroneous data, omits connected actions, direct, indirect or cumulative effects, or that is otherwise misleading, violates NEPA.

THE STATUS OF ANADROMOUS FISH IN THE COLUMBIA RIVER BASIN

30. Columbia River basin salmon and steelhead are anadromous fish. They are born and rear in fresh water, migrate downstream through the Columbia River and its tributaries to the Pacific Ocean where they grow and live as adults, return to their natal streams and lakes to spawn and – with the exception of some steelhead – die. The Columbia River basin, tributaries, and estuary historically provided habitat for chinook, sockeye, chum, and coho salmon, as well as steelhead. A century ago, between 10 and 16 million salmon returned to the Columbia each year. Today, however, at least 67 stocks of Columbia River salmonids are extinct, and many more stocks are at risk of extinction. Few are self-sustaining and healthy.

31. During the course of their juvenile and adult migrations through fresh water, these remaining Columbia River basin salmon and steelhead face numerous artificial obstacles to successful migration, reproduction, and rearing. Operation of a series of dams and their associated reservoirs, locks and other facilities that comprise the Federal Columbia River Power

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System ("FCRPS") and the dams, reservoirs, and bank protection works that comprise the Willamette River Basin Project ("WRBP") seriously and adversely affect ESA-listed salmon and steelhead in a variety of ways by altering the natural flow and temperature patterns of these Rivers, killing juvenile salmon and steelhead as they migrate through or past these dams, and delaying juvenile fish migration by trapping fish in warm slack-water reservoirs.

32. Another serious obstacle facing Columbia salmon and steelhead is passage through and rearing in what little habitat remains in the once vast and productive Columbia River estuary. The Columbia River estuary plays an important role in the life cycle of salmon and steelhead by providing a critical interface between river and ocean ecosystems. The estuary is an essential nursery for all juvenile Columbia salmon and steelhead as they undergo dramatic physiological processes that allow them to proceed from the initial fresh water phase of their life cycle to the marine or salt-water phase. Each of the twelve stocks of listed salmon and steelhead spends a different amount of time in the Lower Columbia River, its estuary, and the near-shore ocean area influenced by the estuary, and occupies different parts of the ecosystem during its stay in these areas. Unfortunately, the estuary has been so altered by human activities, especially dredging and disposing of dredged spoil, diking and filling wetlands, installing navigation aids and control structures such as jetties and pile dike fields, depositing toxic chemical, and changing river flows and water quality, that the very ability of the estuary and the area it influences to support self-sustaining salmon and steelhead populations is currently at serious and substantial risk.

33. In addition to the obstacles created by the FCRPS and WRBP and the conditions in the Lower Columbia and estuary, wild salmon and steelhead face numerous other obstacles to successful migration, reproduction, and rearing including, but not limited to: habitat loss and

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degradation due to human activities such as development, logging, grazing, dredging, industrial and agricultural water diversions, pollution, and mining; increased predation due to altered river flows and ecosystems, disease and disorientation; disrupted biological transformation processes also due to altered river and estuary conditions; disease and other adverse effects caused by hatchery fish, as well as competition from hatchery fish for food and habitat.

34. As a consequence of these and other obstacles, populations of salmon and steelhead have declined precipitously since the late 1800's. Indeed, most of the remaining populations of salmon and steelhead in the Columbia River basin are protected under the ESA. The Evolutionarily Significant Units ("ESUs") of salmon and steelhead protected by the ESA include:

- Snake River sockeye, 56 Fed. Reg. 58619 (Nov. 20, 1991) (listed as endangered); 58 Fed. Reg. 68543, 68546 (Dec. 28, 1993) (designating critical habitat);
- Snake River spring/summer chinook, 57 Fed. Reg. 14653 (April 22, 1992) (listed as threatened); 58 Fed. Reg. 68543, 68546 (Dec. 28, 1993) (designating critical habitat);
- Snake River fall chinook, 57 Fed. Reg. 14653 (April 22, 1992) (listed as threatened); 58 Fed. Reg. 68543, 68546 (Dec. 28, 1993) (designating critical habitat);
- Snake River steelhead, 62 Fed. Reg. 43937 (Aug. 18, 1997) (listed as threatened); 65 Fed. Reg. 7779 (Feb. 16, 2000) (designating critical habitat);
- Upper Columbia River steelhead, 62 Fed. Reg. 43937 (Aug. 18, 1997) (listed as endangered); 65 Fed. Reg. 7779 (Feb. 16, 2000) (designating critical habitat);
- Lower Columbia River steelhead, 63 Fed. Reg. 13347 (March 19, 1998) (listed as threatened); 65 Fed. Reg. 7779 (Feb. 16, 2000) (designating critical habitat);
- Upper Columbia River spring-run chinook, 64 Fed. Reg. 14308 (March 24, 1999) (listed as endangered); 65 Fed. Reg. 7778 (Feb. 16, 2000) (designating critical habitat);
- Lower Columbia River chinook, 64 Fed. Reg. 14308 (March 24, 1999) (listed as threatened); 65 Fed. Reg. 7778 (Feb. 16, 2000) (designating critical habitat);

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- Mid-Columbia River steelhead, 64 Fed. Reg. 14517 (March 25, 1999) (listed as threatened); 65 Fed. Reg. 7778 (Feb.16, 2000) (designating critical habitat);

- Upper Willamette River steelhead; 64 Fed. Reg. 14517 (Mar. 25, 1999) (listed as threatened); 65 Fed. Reg. 7778 (Feb.16, 2000) (designating critical habitat);

- Upper Willamette River chinook, 64 Fed. Reg. 14308 (March. 24, 1999) (listed as threatened); 65 Fed. Reg. 7778 (Feb.16, 2000) (designating critical habitat);

- Columbia River chum salmon, 64 Fed. Reg. 14507 (March 25, 1999) (listed as threatened); 65 Fed. Reg. 7778 (Feb.16, 2000) (designating critical habitat).[4]

35. Many of these listed stocks face a serious and immediate risk of extinction. Recent scientific analyses by NOAA Fisheries and others have shown that some stocks may disappear in a few short years if their remaining habitat is not immediately protected and aggressively restored. Despite adult returns in 2000 through 2003 that exceeded averages for the previous decade, the populations of these fish are expected to continue a downward spiral toward extinction. In February 2003, NOAA Fisheries convened a panel of scientists to form a Biological Review Team ("BRT"), which reviewed all of the most recent data and information on each of these ESUs. In their draft report, these scientists concluded that:

> Overall, although recent increases in escapement were considered a favorable sign by the BRT, the response was uneven across ESUs and, in some cases, across populations within ESUs. Furthermore, in most instances in which recent increases have occurred, they have not yet been sustained for even a full salmon/steelhead generation. The causes for the increases are not well

[4] Pursuant to a consent decree approved in National Ass'n of Homebuilders v. Evans, Civ. No. 00-2799 (CKK) (D.D.C. April 30, 2002), NOAA has temporarily withdrawn its critical habitat designation for many of these species, including: Upper Columbia River spring-run, Lower Columbia River, and Upper Willamette River chinook; Columbia River chum; and Upper Columbia River, Snake River, Lower Columbia River, Upper Willamette River, and Middle Columbia River steelhead. Pursuant to a second consent decree approved in Pacific Coast Fed'n of Fishermen's' Associations v. NMFS, Civ. No. 03-1833 (filed Sept. 15, 2003), however, NOAA will redesignate critical habitat for these same species no later than January 18, 2005. Critical habitat remains in place for Snake River fall chinook, Snake River spring/summer chinook, and Snake River sockeye salmon.

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> understood, and in many (perhaps most) cases may be due primarily to unusually favorable conditions in the marine environment rather than more permanent alleviations in the factors that led to widespread declines in abundance over the past century. In general, the BRT felt that ESUs and populations would have to maintain themselves for a longer period of time at levels considered viable before it could be concluded that they are not at significant continuing risk.

Executive Summary, at 3; see also Draft BRT Report at 119 ("In spite of the recent increases [of Snake River Fall chinook], however, the recent geometric mean number of naturally produced spawners is still less than 1,000, a very low number for an entire ESU."). These and similar dire population projections for species already listed under the ESA have led NOAA Fisheries' scientists to conclude that: "the probability [that] many [salmon and steelhead] stocks and ESUs will severely decline or go extinct in both the short and long-term [is] substantial." McClure, et al., *A Large-Scale Multi-Species Risk Assessment* at 2 (2001) (emphasis added).

THE DEGRADED STATE OF THE ESTUARY

36. The Channel Deepening Project and its impacts will further damage the already degraded Columbia River estuary.[5] The estuary, originally as shallow as 12-15 feet in many areas, has been dredged to provide a navigation channel to Portland, Oregon with a current depth of 40 feet. Past dredging has shifted the location of the estuary's nutrient-rich cloud of biota upon which salmon rely, and altered the salinity and turbidity distributions in the estuary and near-shore environment. Each of these changes directly and negatively affects salmon. Diking, filling, pile dikes, and jetty construction have cut off access to formerly productive salmon habitat. Much of this habitat was once provided by the estuary's vast wetlands. Since 1870, more than half of the tidal swamp and marshes in the lower river have been lost as a result of diking, draining, filling, dredging and flow regulation. Since 1948, tidal wetland habitats in the

[5] NWEA uses the term "estuary" to describe to the Columbia River from its mouth at the Pacific Ocean upstream to the maximum reach of tidal influence.

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lower 46 miles of the River have decreased by as much as 70 percent. As a result, a vast amount of feeding and nursery habitat for salmonids is no longer available. Scientists believe this to be a limiting factor in their survival and recovery.

37. The Corps maintains a number of different projects that have ongoing effects in the estuary. At the entrance of the Columbia River is the Mouth of Columbia River ("MCR") Project, which runs from River Mile -3 to River Mile 3. The MCR has been successively deepened and is now maintained at 55 feet, plus an additional five feet of advanced maintenance dredging. The MCR requires dredging every year to remove an average 4-5 million cubic yards of sediment that accumulate in the channel. Integral to the MCR are the jetties that were built on either side of the MCR to stabilize the inlet, confine flows, and prevent encroachment of sand shoals into the navigation channel. Moving upstream, the Corps maintains the Columbia River navigation channel at a depth of 40 feet, with an additional five feet of advanced maintenance dredging. The channel runs from River Mile 3 to River Mile 106.5 near Portland, Oregon. The Willamette River navigation channel runs from the mouth of the Willamette River, which enters the Columbia at River Mile 105, upstream to Willamette River Mile 11.6. The Corps also maintains this channel at a depth of 40 feet.

38. Finally, upstream of the estuary, the Corps operates many of the dams and reservoirs on the Columbia and Snake River that comprise the Federal Columbia River Power System ("FCRPS"). Although these projects are not located within the estuary, their operations have significantly altered the amount, quality, and timing of water, organic material, and sediment that flows to and through the estuary.

39. Although the Corps considers each of these activities as separate projects, they are each related and together have a variety of significant impacts on the Columbia River estuary.

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For example, construction and maintenance of the jetties at the Mouth of the Columbia River, flow alteration caused by the operation of the FCRPS dams, the build-up of sediments behind the dams, dredging in the MCR and in the navigation channel, and disposal of sediment in the ocean, uplands, and in deepwater sites, have collectively removed vast quantities of sediment from the estuary and near-shore (littoral) environment. Removal of sand from the estuary and littoral system is an irreversible and irretrievable commitment of this resource. This has disrupted the physical processes that create and maintain fish habitat and altered the near-shore and coastal environments. Construction of the jetties caused a huge discharge of sand from the Columbia River to the ocean. This initial discharge, combined with the effects of dredging and disposal activities, and disposal of sediment in the ocean, uplands, and in deepwater sites and the sediment-trapping effects of the FCRPS dams, have caused the Columbia River estuary to become "sediment starved." The estuary, which historically provided a large supply of sediment to accumulate on the Washington and Oregon coasts, is now a "sink" for sediment. Instead of being constantly nourished with sediments from the River, coastal beaches in both states are rapidly eroding sediment back into the estuary. The costs associated with addressing coastal erosion are estimated at $70 to $100 million over the last ten years for Southwest Washington alone.

40. The navigation projects in the Columbia River estuary have also significantly contributed to increases in salinity levels within the estuary. With each successive deepening or channel alteration, including construction of the jetties, the progressive deepening of the MCR, the progressive deepenings of the river channel, and the alterations caused by dredged spoil islands, accretion, erosion, and pile dikes, more ocean water intrudes further into the estuary. Although salinity intrusion has impacts on stratification and sedimentation within the estuary,

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salinity is also a "major factor affecting the distribution of some species particularly in the estuary and Lower River." DMMP/SEIS at 83. Important prey for salmonids is particularly sensitive to salinity changes and will avoid areas with high salinity. Increases in salinity and their attendant decreases in available prey therefore lead to the loss of rearing habitat for juvenile salmonids. As salinity has intruded into the estuary, the freshwater habitats and freshwater species have given way to marine life.

41. The estuary is also affected by pollution, including high water temperatures and unsafe levels of dissolved oxygen, pH, and toxics. High water temperatures, low dissolved oxygen, and toxic contaminants not only have measurable deleterious effects to salmonids and other wildlife independently, but also have enhanced adverse effects in combination. Levels of toxic contaminants in the estuary have been high enough to cause reproductive failure in bald eagles, gross anatomical abnormalities in river otter including missing or atrophied reproductive organs, and result in contaminant levels in fish high enough to cause reproductive failure in mink along with evidence of potential extirpation of the species from the area.

42. The Willamette River portion of the navigation channel and estuary have also been grossly altered by flow regulation, bank-to-bank dredging, and pollution. The Oregon Department of Environmental Quality determined in 2002 that water quality in the Willamette River portion of the navigation channel violated a variety of state water quality standards including those for temperature, heavy metals, and pesticides. Most of the Lower Willamette River was placed on the federal National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq., on December 1, 2000. 65 Fed. Reg. 75179 (Dec.1, 2000). The eventual extent of contamination may stretch from the Willamette's confluence with the Columbia to Willamette Falls, at river mile 26.5. The site is

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contaminated by a variety of heavy metals, pesticides and herbicides, and dioxin. Although Willamette channel deepening was originally part of the Channel Deepening Project, the Corps excluded the Willamette from the FSEIS and ROD for the Project after the National Priorities listing in 2000. However, the Corps has identified continued dredging to maintain a 40-foot deep channel in the Willamette River as a "reasonably foreseeable" action. FSEIS at 6-78.

43. Each of the actions described above, along with many other federal and non-federal actions, have taken a collectively significant toll on the estuary. NOAA Fisheries' scientists have summarized the current state of the estuary as "grossly altered by previous dredging to establish the navigation channel, disposal of dredged material, diking and filling, sewage and industrial discharges, water withdrawals and flow regulation." Memorandum from NOAA's Northwest Fisheries Science Center at 1 (Dec. 2, 1999). Although NOAA Fisheries and the Corps generally acknowledge the degraded state of the estuary, the agencies have never fully analyzed the impacts that these past actions, including actions associated with the maintenance of the current shipping channel and existing navigation structures such as the jetties, have on listed salmon and steelhead, other species, or on the health or condition of the estuary as a whole. Although each of these actions and their effects are felt in the same area and they are connected to one another geographically, economically, and functionally, they have never been evaluated in that context. Instead, the agencies have compartmentalized and segmented their analyses of these actions so as to avoid their combined and cumulative effects. A comprehensive analysis, however, is essential to evaluating the impacts of any action in the estuary.

44. Despite the lack of analysis, NOAA Fisheries has placed a premium on restoring the degraded condition of the estuary in other biological opinions. For example, in a 2000 biological opinion for operation of the FCRPS, NOAA sought to achieve salmon survival

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improvements necessary to avoid jeopardy, in part by addressing problems in the estuary.

THE CHANNEL DEEPENING PROJECT

45. In stark contrast to the recognition of the need for estuary restoration, the U.S. Army Corps of Engineers has proposed to continue dredging, and to significantly deepen more than 100 miles of the Columbia River from its mouth to Portland, Oregon, an even further insult to the already fractured integrity of the estuary. The purpose of this additional disruption is allegedly to accommodate navigation.

46. The navigation channel through the Lower Columbia River and estuary is currently 40 feet deep, 600 feet wide, and runs approximately 100 miles from the mouth of the Columbia River to Portland, Oregon. The Corps proposes to deepen this existing channel by an additional three feet. In order to achieve this new depth, the Corps proposes to conduct "advanced maintenance" dredging, which will deepen the channel by an additional *five feet* (for a total of *eight* feet of new depth) and widen the existing channel by 100 feet. Channel Deepening BiOp at 12. According to the BiOp, the Channel Deepening Project, including maintenance dredging over the next 50 years, will require the removal and relocation of 190 million cubic yards of dredge spoils. Id. This is enough dredged material to completely fill the old Kingdome in Seattle more than 76 times over. This estimate of dredging volumes has met with skepticism in the scientific community because dredge spoil removal and disposal in connection with the Project is likely to exceed the Corps' estimate by a significant amount.

47. The Channel Deepening Project will have significant, unquantified, unexamined, and largely unexplained adverse effects on young salmonids through, among a host of impacts, changes in water quality, ecosystem function, sediment transport, turbidity, redistribution of contaminated sediments, predation, and changes in salinity intrusion in the estuary affecting its productivity and suitability to support salmonids. All of these impacts have led scientists at

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NOAA Fisheries to describe the Channel Deepening Project as an "incremental insult to an already degraded ecosystem." Memorandum from NOAA's Northwest Fisheries Science Center at 1 (Dec. 2, 1999).

NOAA FISHERIES' CONSULTATION ON PROJECTS IN THE ESTUARY

I. THE CHANNEL DEEPENING PROJECT

48. On December 16, 1999, NOAA Fisheries issued a BiOp for the Lower Columbia River Channel Deepening Project (the "1999 BiOp"). The 1999 BiOp concluded that the Project would not jeopardize the continued existence of 12 ESUs of salmon and steelhead. NWEA and others challenged the 1999 BiOp in this Court. Northwest Environmental Advocates, et al. v. National Marine Fisheries Service, Civ. No. C00-235 R, Complaint for Declaratory and Injunctive Relief (Feb. 14, 2000). In response to that litigation, NOAA Fisheries withdrew the 1999 BiOp on August 25, 2000. See Letter from Donna Darm to Colonel Randall J. Butler Re: Withdrawal of the Biological Opinion for the Columbia River Federal Navigation Channel Deepening Project and Request to Reinitiate Consultation, at 2. The Court subsequently dismissed plaintiffs' claims as moot. Northwest Environmental Advocates, at al. v. National Marine Fisheries Service, Civ. No. C00-235 R, Order Granting Motion to Dismiss, Granting in Part and Denying in Part Motions to Amend, and Denying Motion to File Overlength Brief at 3 (Nov. 28, 2000) (dismissing claims without prejudice).

49. Soon after NOAA withdrew the 1999 BiOp, the Corps and NOAA Fisheries reinitiated consultation. The Corps produced a new Biological Assessment ("BA") for the Channel Deepening Project on December 28, 2001, and amended the BA on April 15, 2002. The actions proposed in the BA included both the Channel Deepening Project and a discussion of several "ecosystem restoration" features. Channel Deepening BiOp at 24-26. These "restoration" projects were not "proposed to directly mitigate or compensate for any Project-

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related impacts to ESA-listed salmonids . . . [but were] proposed as Conservation Measures under section 7(a)(1) of the ESA and have been included in the proposed action by the Corps." Id. at 24.

50. NOAA Fisheries issued the Channel Deepening BiOp on May 20, 2002. The new BiOp, like the 1999 BiOp, concludes that the Project, as described in the BA, is not likely to jeopardize the continued existence of twelve ESUs of Columbia Basin salmon and steelhead. Channel Deepening BiOp at 86. There are a number of serious, substantial, and fundamental defects in this analysis that render the no-jeopardy/no-adverse modification conclusions of the BiOp arbitrary, capricious, and otherwise not in accordance with law. Some of these defects are described below.

51. The first of these flaws affects NOAA's assessment of the environmental baseline – the foundation for evaluating the effects of the Channel Deepening Project. NOAA admits that "[t]he biological requirements of ESA-listed salmonids are currently not being met under the environmental baseline. The species status is such that there needs to be significant improvement in the current environmental baseline conditions, including the condition of any designated critical habitat." Channel Deepening BiOp at 34. After this assertion, however, NOAA fails to perform any analysis of precisely how degraded the baseline is, how specific past activities have caused or contributed to degradation of the estuary, what that degradation means in terms of biological impacts to salmon, or whether the current baseline itself creates a situation where *any* adverse effects from a proposed action would cause jeopardy or where only those proposed actions that actually improve conditions for the species avoid jeopardy. NOAA has failed to analyze this data, and does not draw any conclusion whatsoever about what current conditions mean for salmon use of and dependence on the estuary, in violation of its duty to

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consider or evaluate the baseline conditions, including "all past and present impacts of all Federal, State, or private actions and other human activities in the action area" as part of its jeopardy analysis for the Channel Deepening Project. 50 C.F.R. § 402.02.

52. Second, NOAA bases its no-jeopardy conclusion for the Project, in part, on the Corps' finding in its BA that a "conceptual model" developed during reconsultation shows minimal short-term impacts from the Channel Deepening Project that can be minimized through best management practices and mitigation. Most significantly, and similar to the problem with NOAA Fisheries' baseline analysis, the "conceptual model" describes only the potential physical changes to certain habitat features and characteristics as a result of *this* Project, and even then does not draw a connection between these physical changes and the biological impacts to salmon. It does not translate these physical characteristics into an analysis that combines their biological impacts with the impacts of current conditions, nor does it evaluate changes to habitat elements that would occur from the Channel Deepening Project when added to the environmental baseline. As one of the scientists who participated in a process evaluating the conceptual model commented:

> The model seems structurally sound. In that the components and linkages it encompasses are those which we want to see represented. However, the way in which the physical processes transcribe to biological processes is critical, and here we will have little basis on which to "parameterize" the model. Its limitation in this respect must be recognized.

SEI Channel Improvement Questionnaire Summary at 7 (responding to question 5, whether the model appears "structurally sound").

53. Third, NOAA estimates that long-term impacts to the Estuarine Turbidity Maximum ("ETM"), a shifting, nutrient-rich cloud of biota in the estuary and near-shore environment upon which salmon and other species rely, an increase in salinity intrusion,

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formation and preservation of tidal marshes, and elimination of connectedness of habitat used by rearing juvenile salmon are all possible adverse consequences of the Channel Deepening Project. Channel Deepening BiOp at 74. NOAA admits that "even using the best available scientific data, there remains a degree of risk and uncertainty, albeit low, with our ability to link the limited physical changes in habitat elements predicted from the Project with long-term effects – either positive, negative, or neutral – to ESA-listed salmonids or their habitats." BiOp at 74. Instead of discussing or assessing these risks, however – some of which the Corps listed in a rudimentary chart in the BA at 7-1 to 7-6 – NOAA suggests that "a robust monitoring program and adaptive management process are appropriate to address the risks and uncertainties associated with key salmon pathways and indicators identified in this Opinion." Id.

54. The monitoring and adaptive management program proposed by NOAA is not itself a measure to avoid jeopardy but at best a procedure for identifying it once it has occurred. Moreover, even then, it does not translate automatically into taking action to protect salmon and steelhead if there is a problem. In many cases, NOAA's "adaptive management" program calls for further study and evaluation when a problem is found. See, e.g., Channel Deepening BiOp at 24 (explaining that a problem identified during monitoring could lead only to further monitoring). These are not actions that themselves will avoid or even mitigate for jeopardy, they are planning exercises to be carried out while salmon and steelhead continue to decline and the Channel Deepening Project moves forward. NOAA Fisheries cannot properly substitute monitoring and adaptive management for identification of actions that will ensure against jeopardy and adverse modification at the outset. Promising to monitor the damage that the Project will cause and evaluate whether and what action to take at some point in the future violates the ESA because it puts the burden of risk on the species instead of the Project.

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55. Fourth, NOAA has failed to consider several relevant factors in its no-jeopardy determination. NOAA has ignored almost entirely the problem of contaminated sediments in the estuary. Indeed, this was one of the areas of major concern that NOAA Fisheries cited in its August 25, 2000, letter withdrawing the 1999 BiOp. The new Channel Deepening BiOp considers only the sediment in the existing channel that will be dredged and concludes that because the channel itself consists of mostly "clean" sand, there is little chance that dredging will release any contaminants. See Channel Deepening BiOp at 60 (explaining that due to the current and movement of the largely sandy bottom of the navigation channel, "fine material mixed in with the sand is likely to be swept away as the layers are exposed to the river currents, resulting in the limited potential for release of fines [containing contaminants] during the dredging activity."). Looking only at the smaller area where dredging will take place ignores the problem (which NOAA acknowledges elsewhere) of contaminated sediments that will be exposed and made biologically available by slumping of the sides of the river bed in response to deepening and widening of the channel. Given the importance that NOAA Fisheries assigned to the problem of contaminated sediments in its decision to withdraw the 1999 BiOp, its failure to analyze this impact from dredging renders its new biological opinion arbitrary and capricious.

56. NOAA Fisheries also fails to consider the effects of removing massive amounts of sediment from the estuary over the life of the Channel Deepening Project. Sediment is a necessary element in the formation of habitat upon which salmon rely as well as in the formation coastal beaches. Once that sediment is disposed of outside of the estuary (either on upland sites, as fill in wetlands, or in the deep-water ocean disposal site) it is removed from the estuary and littoral system forever and is no longer available to form the types of habitat that salmon need. This removal of estuary sediments will also increase erosion of beaches and near-shore habitat.

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Independent scientists consider the transport and deposition of sediment to be a very significant factor for the long-term health of the estuary. While NOAA acknowledges that sediment is a significant component of habitat-forming processes in the estuary, the agency states only that it "believes that Project-related changes to suspended sediment could affect the habitat-forming process of sediment accretion and erosion." BiOp at 48. The agency's failure to fully consider this relevant factor in the BiOp renders its decision arbitrary and capricious.

57. Finally, NOAA Fisheries has issued an incidental take statement ("ITS") with the Channel Deepening BiOp that does not specify the amount or extent of the incidental take of endangered and threatened species. The ESA requires NOAA to quantify take in order to provide a threshold for take that, if exceeded, would require the Corps to reinitiate the consultation process. 50 C.F.R. § 402.14(i)(4). Without that independent threshold or trigger, NOAA cannot determine whether the Corps is exceeding an amount of incidental take that NOAA has determined would require the agency to reinitiate consultation.

58. There are two methods for quantifying take. First, NOAA Fisheries may provide a straightforward numeric quantification. In limited situations where the agency can establish that such a numeric value cannot practicably be obtained, however, the ESA allows NOAA to choose a proxy, or surrogate method of quantifying take. For example, "the use of ecological conditions as a surrogate for defining the amount or extent of incidental take is reasonable so long as these conditions are linked to the take of the protected species." Arizona Cattle Growers' Ass'n v. U.S. Fish and Wildlife Service, 213 F.3d 1229, 1250 (9th Cir. 2001).

59. The effects from activities covered by the Channel Deepening BiOp will "result in short-term and long-term take of ESA-listed salmonids." Channel Deepening BiOp at 90. For the short-term construction phase of the project, NOAA quantifies incidental take from one

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activity (blasting) as "no more than ten adult ESA-listed salmonids and 50 juvenile ESA-listed salmonids." Channel Deepening BiOp at 90. For the remainder of the short-term impacts, such as entrainment in dredge equipment and turbidity, and for all of the long-term impacts, NOAA concludes that, "the best scientific and commercial data are not sufficient to enable NOAA Fisheries to estimate a specific amount of long-term take over the life of the project . . . . NMFS anticipates an unquantifiable, but low amount of incidental take over the life span of the Project." BiOp at 91.

60. Aside from the numbers of fish that may be affected by blasting, the BiOp does not set an independent threshold to determine when the Corps would exceed the permitted level of take and trigger a duty to reinitiate consultation. NOAA Fisheries provided no rational explanation detailing why the agency found that it is impractical to include a numeric value to quantify take in the ITS. Nor did NOAA Fisheries provide a proxy, or surrogate method of quantifying take, for either the short or long-term impacts of the Project.

61. In sum, the BiOp combines an inadequate and arbitrary assessment of the environmental baseline (the starting point for its analysis), with an insufficient analysis of the effects of the Channel Deepening Project, including its cumulative effects. These errors are compounded by the agency's unaccountable reliance on unspecified and uncertain research, and monitoring, to reach a no-jeopardy/no adverse modification finding for an action that will adversely affect 12 listed salmonid stocks and their critical habitat in an ecosystem that NOAA Fisheries itself recognizes is degraded and currently incapable of supporting these species.

II. THE O&M BIOP

62. On September 15, 1999, NOAA Fisheries issued the O&M BiOp. That BiOp concluded that maintaining the navigation channel at its current depth of 40 feet was not likely to jeopardize the continued existence of 12 Columbia Basin salmon and steelhead ESUs that rely on

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the Columbia River estuary. Like the Channel Deepening BiOp, however, the O&M BiOp fails to evaluate the environmental baseline in the estuary, including the impacts of the baseline on ESA-listed fish.

63. The baseline discussion in that BiOp is one paragraph long and concludes that past actions in the estuary:

> have modified water quality; altered rearing and spawning habitat; and decreased migration survival. Any continuation, or further degradation of these conditions would have significant impact due to the level of risk the listed salmon face under the environmental baseline.

O&M BiOp at 7-8. Despite this warning about the poor conditions in the estuary, NOAA Fisheries does not evaluate the impacts of the actions that have led to this degraded condition. NOAA fails to perform any analysis of precisely how degraded the baseline is, how specific past activities have caused or contributed to degradation of the estuary, what that degradation means in terms of biological impacts to salmon, or whether the current baseline has created a situation where either any further adverse effects from a proposed action would cause jeopardy or only beneficial projects can proceed without causing jeopardy. Indeed, NOAA gives only cursory treatment to the effects of continuing a 40-foot-deep shipping channel in the Lower Columbia River. Although it identifies increased river-bank erosion and the resultant increase in permits for actions such as rip-rap and increased industrialization as consequences of the maintenance actions, NOAA fails to draw any conclusions from this information. Instead, the agency spends the bulk of the O&M BiOp discussing the effects of dredged spoil disposal on avian predation on juvenile salmon. See O&M BiOp at 9-11.

64. A mere presentation of data, without analysis or conclusion, does not fulfill the regulatory requirement that NOAA Fisheries consider "all past and present impacts of all Federal, State, or private actions and other human activities in the action area" as part of its

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jeopardy analysis for O& M dredging. 50 C.F.R. § 402.02. Without this foundation – the current state of the estuary and its impact on salmon – NOAA Fisheries cannot possibly make a reasoned, rational determination that the effects of maintaining the navigation channel at a depth of 40 feet will avoid jeopardy.

65. The discussion of the environmental baseline in the O&M BiOp thus suffers from flaws similar to those identified in the Channel Deepening BiOp, see ¶ 51 above. Indeed, the O&M BiOp's failure to properly analyze the environmental baseline contributes to the Channel Deepening BiOp's failure to consider the effects of the current channel depth and state of the estuary. The agency has evidently never "refreshed" its baseline description for the estuary even though it has authorized maintenance dredging and many other activities in the estuary in the period since salmon and steelhead were first listed in 1991. The point of discussing the environmental baseline in successive biological opinions is to keep track of changing conditions to determine when an action that may be small when taken by itself may cause impacts that exceed the jeopardy threshold.

THE CORPS' CONSIDERATION OF PROJECTS IN THE ESTUARY

I. THE CHANNEL DEEPENING EIS

66. In October of 1998, the Corps released a Draft Feasibility Analysis and Environmental Impact Statement ("DEIS") for the Columbia and Willamette River Channel Deepening Project. A Final Environmental Impact Statement was completed for the Project in August 1999 (hereinafter "1999 FEIS"). The Corps did not issue a ROD for the Project at that time. On December 23, 1999, purportedly in accordance with § 101(b)(13) of the Water Resource Development Act of 1999, Pub. L. No. 106-53, 113 Stat. 260 (August 17, 1999), the Chief of the Corps submitted a favorable report to the Secretary of the Army and Congress recommending that the Channel Deepening Project be authorized to proceed and funded for

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construction by congressional appropriation. The Chief's Report had the effect of authorizing the Project to proceed as funds for construction become available by congressional appropriation. In the Report, the Chief certified that the dredging proposal is "economically justified, and environmentally and socially acceptable." Chief, U.S. Army Corps of Engineers, Report to the Secretary of the Army Re: Columbia and Lower Willamette Rivers Federal Navigation Channel, (Dec. 23, 1999) at 7.

67. The "purpose and need" for the Channel Deepening Project is "to improve the deep-draft transport of goods on the authorized 40-foot deep Columbia and lower Willamette Rivers navigation channel, and to provide ecosystem restoration for fish and wildlife habitats." 1999 FEIS at 1-1.

68. In addition, because "[c]ontinued maintenance of the MCR project is a necessary component for the viability of not only the existing 40-foot navigation channel but also any proposed channel improvements," the 1999 FEIS also evaluated the designation of a deep-water ocean disposal site for placement of dredge spoils. 1999 FEIS at 1-2. The Corps first identified the need for a deep-water site in a series of Environmental Assessments for MCR maintenance dredging as a panacea for the problems – including mounding, production of wave action that causes navigation hazards and undermines the navigation control structures, and concerns about smothering marine life – that disposal in other near-shore ocean dump sites has created. In addition to these problems, these other sites are or are nearly filled to capacity. The deep-water site was intended to serve as the depository for sediments dredged from both the MCR and potentially for those from construction and maintenance dredging of the deepened navigation channel after year twenty of the Channel Deepening Project.

69. In 2002, after the states or Washington and Oregon denied certifications for the

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Channel Deepening Project under Clean Water Act § 401, 33 U.S.C. § 1341, after NOAA Fisheries withdrew its 1999 biological opinion, and after a series of articles in the Oregonian newspaper exposing fundamental errors in the Corps' economic analysis and cost-benefit projections contained in the 1999 FEIS, the Corps announced that it would prepare a Supplemental EIS for the Channel Deepening Project. The Corps worked to complete its BA and convened a panel, facilitated by the Sustainable Ecosystems Institute ("SEI"), to review information that the Corps' had generated in the NEPA process and in drafting its BA for consultation with NOAA Fisheries. The Corps issued a Draft Supplemental Environmental Impact Statement ("DSEIS") on July 9, 2002 and accepted public comment.

70. The DSEIS contained several new additions to the Project, including several "ecosystem restoration" projects that the Corps planned to complete, but which the Corps emphasized were not proposed as mitigation for the effects of Channel Deepening. According to the Corps, these "ecosystem restoration features" consisted primarily of disposal of dredged sediment to create shallow-water habitat for juvenile salmon. The DSEIS also contained a revised economic analysis and cost-benefit calculation.

71. After release of the DSEIS, the Corps convened a Technical Review Panel of economists to examine its economic analysis and cost-benefit findings in the DSEIS. That panel identified numerous significant flaws in the Corps' economic analysis for the Channel Deepening Project.

72. The Corps issued a Final Supplemental Environmental Impact Statement ("FSEIS") on January 28, 2003. On January 9, 2004, the Corps issued a Record of Decision ("ROD") approving the Channel Deepening Project. In the ROD, the Corps adopted a modified version of its "Environmentally Preferred Plan" for channel deepening contained in the FSEIS.

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73. The Corps' modified plan announced in the ROD eliminates two large-scale "ecosystem restoration features" that were analyzed in the DSEIS and FSEIS. Each of these features involved disposing of large amounts of dredged sediments within the estuary. The Corps removed these features from the Project because the States of Washington and Oregon opposed the use of dredged sediments at these two sites in their Clean Water Act § 401 certifications and stated that it would dispose of these sediments in the ocean deep-water site instead. Although these projects were evidently removed from the Project in a November 2003 "Addendum" to the FSEIS, the Addendum was not made publicly available until after the ROD was issued, and was posted to the Corps' website only after an inquiry by NWEA. The public did not have an opportunity to comment on the impacts of these changes to the Project.

A. Environmental Consequences of the Channel Deepening Project

74. The Corps has failed to take a "hard look" at the effects and environmental consequences of the Project and of the various alternatives. First, the Corps failed to discuss and adequately analyze the toxic and other contaminants that will be mobilized in the water column and made available to the estuary's food chain as a result of the Channel Deepening Project. Many of the sediments in the Columbia River are contaminated with toxic chemicals, pesticides, heavy metals, and other pollutants that have accumulated over time. In the FSEIS, the Corps repeatedly emphasizes that it has tested many of the areas proposed for deepening and that the sediments that will be dredged from the channel are clean, well-washed sands that do not contain high levels of toxics. Sediments within the channel, however, are not the only sediments that will be disturbed, redistributed, or eroded by the Project. Deepening the navigation channel by an additional three to eight feet, as well as widening it by 100 feet, will cause the slopes on either side of the channel to "adjust" to the new channel depth. Although the Corps never specifies or discusses the extent, location, or degree of all of these adjustments, it does admit that in some

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areas, significant amounts of sediment from outside the channel will erode into the channel. See, e.g., FSEIS, Exhibit J at 9. Despite this fact, the Corps has failed to analyze or even mention whether the sediments mobilized by side-slope adjustment are contaminated with toxic material. Because the Corps ignores this critical factor, it has also failed completely to discuss and analyze the environmental impacts, including effects to fish, wildlife, and human health from the potential resuspension of toxics from the Project.

75. Second, although the Corps does not disclose precisely how much sediment the Channel Deepening Project will remove from active transport within the estuary and littoral system, the Corps has failed to disclose and adequately analyze the environmental effects of removing completely at least 22 million cubic yards of sediment from those systems in the first 20 years of the Project alone. As numerous commenters including NWEA and the States of Washington and Oregon informed the Corps, the erosion and accretion process, including continued coastal erosion, is affected by channel deepening and dredged spoil disposal choices. Indeed, the States of Washington and Oregon submitted extensive comments detailing how channel deepening, including the creation of the deep-water site, would continue or accelerate the problem of coastal erosion. The Corps has failed to disclose or adequately analyze the impacts that the Project will have on coastal erosion.

76. Similarly, the Corps did not evaluate the environmental impacts of removing even more sediment from the littoral system after it changed the Channel Deepening Project in the ROD to exclude two of the estuary "ecosystem restoration" features. The disposal sites that the Corps removed from the Project in the ROD were to accommodate at least 12 million cubic yards of sediment. Instead of disposing of this material in the estuary, the Corps announced that "[o]cean disposal will be utilized in lieu of Lois Island for construction disposal, and ocean and

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estuarine disposal will be used in lieu of Miller-Pillar for operation and maintenance disposal." ROD at 1-2. Neither the ROD, the FSEIS, nor the November 2003 "Addendum" detail precisely how much sediment the Corps will dispose of in either of these areas, nor do any of these documents discuss or analyze the environmental impacts or the additional costs incurred by utilizing these alternative dump sites. Indeed, although the 1999 FEIS mentions that the site could be used for disposal of construction-generated material, throughout the EIS process, the Corps stated that the Project would not dispose of any dredged material from construction of the 43-foot deep channel or operation and maintenance dredging in the ocean deep-water site for the first 20 years of the Project.

77. Finally, the Corps admits that some salinity changes could result from the Channel Deepening Project, including the upstream movement of the ETM, but concludes that this change will "have an insignificant effect on the distribution of nutrients in the estuary." FSEIS at 6-12. The Corps relied on an analysis done by the Oregon Health & Sciences University to reach this conclusion, but that analysis itself is severely limited. According to the study, "[p]atterns such as those of Figs. 3,6,9-10 may be used to guide management decisions, including evaluation of need and/or design of mitigation or restoration efforts, but only if model uncertainty is further reduced." 2001 BA, Appendix F at 2.

B. Connected Actions

78. As part of the Project, the Corps has proposed to designate a deep-water ocean disposal site for dredged spoils located outside of the Columbia River's littoral system. According to the Corps, the site is needed to accommodate dredge spoils primarily from the MCR and from maintenance dredging from the Channel Deepening Project after year 20. Although the MCR and the Channel Deepening Project are therefore interrelated to one another in that they both rely on the deep-water site, and despite the fact that the deep-water site is

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included in the EIS for the Deepening Project explicitly to accommodate the disposal needs of the MCR, the Corps has failed to adequately analyze the impacts of continued operation and maintenance dredging at the MCR and its disposal practices. These practices and their effects include the significant possibility that the MCR may deteriorate and become impassible and affect the costs involved in preventing such deterioration. The benefits of a deepened channel cannot be reaped if the entrance to the channel is not adequate or is blocked. Instead, the 1999 FEIS's very brief discussion of the disposal of MCR materials in the deep-water site is limited to how disposal of material will affect the deep-water site itself. Neither the 1999 FEIS nor the FSEIS discuss the combination of severe reductions of sediment delivery from the Columbia River to the ocean and the erosion of the Oregon and Washington coasts into the Columbia River, along with many of the other impacts, including erosion and damage to the navigation project itself, that the Corps' past practices have created. Moreover, the in-water disposal of Channel Deepening Project materials above River Mile 3 results in their eventually becoming MCR dredged materials, further linking the two projects.

C. Cumulative Effects

79. The Corps has failed to adequately analyze the effects of the Channel Deepening Project, including dredged spoil disposal and placement, in combination with other past, present, and reasonably foreseeable future actions that affect the estuary, including, but not limited to: (1) the MCR Project; (2) the MCR jetties; (3) Willamette River maintenance dredging; (4) operation of the FCRPS; (5) increased development and industrialization; (6) Columbia River maintenance dredging and disposal, creation of dredged spoil islands and installation of pile dikes; and (7) diking of estuarine wetlands. Each of these actions has over time altered the existing environment and contributed to the degraded state of the estuary. These projects have collectively contributed to, among other negative impacts on the estuary, the intrusion of salt

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water further up the River, the shifting of the ETM, continued loss of sediment in the estuary and the associated coastal erosion, deterioration of the jetties, habitat losses, and the distribution of toxics in the River and its fish and wildlife. The FSEIS for the Project fails to adequately evaluate these cumulative effects. Without such an analysis, the Corps simply cannot evaluate the effects of the additional changes that will occur as a result of the Channel Deepening Project.

80. Although the Corps does not disclose precisely how much sediment the Channel Deepening Project will remove from active transport within the estuary and littoral system, the Corps has failed to disclose and adequately analyze the cumulative effects of removing completely at least 22 million cubic yards of sediment from those systems in the first 20 years of the Project alone in combination with the past, present, and future cumulative effects of dredging and ocean disposal from the MCR project, and the sediment supply limitations imposed by the operation of the FCRPS.

81. Moreover, the integrity of the MCR jetties relies upon the stability of the sand shoals upon which they were built. These shoals, however, have been eroding since the jetties' construction due to successive channel deepening and maintenance dredging, disposal of MCR sands outside the littoral system, the erosion caused by the jetties themselves, and the overall loss of sediment in the system caused by the FCRPS. The erosion trend of the sand spits and shoals at the MCR are causing problems for the long-term stability of the jetties. In addition, ocean disposal has altered wave actions that have contributed to the deterioration of the jetties themselves. To date, the South Jetty Head has lost 4,000 feet in length, while the head of the North Jetty has lost 1,700 feet. Moreover, other large portions of the jetties are suffering from significant deterioration, requiring emergency repairs and restoration. Because of these conditions, the Corps has estimated that there is a 25% risk of a breach in the South Jetty each

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winter. Deepening the channel and removing more sediment from the littoral system from dredging and disposal in the deep-water or upland sites will contribute further to this deterioration. The Corps failed to disclose any of this information and to adequately analyze the Channel Deepening Project's environmental and economic impacts in combination with these cumulative effects.

82. According to a study completed by U.S. Fish and Wildlife Service, before the 1950s, little ocean water was thought to have entered the estuary. A Detailed Report on Biological Resources Impacted by the Proposed Navigation Channel Deepening Columbia River at the Mouth, Portland Field Office, Ecological Services, U.S. Fish & Wildlife Service (August 1982) at 7. That study noted that due to earlier MCR and channel deepening, saline ocean water was penetrating deeper into the estuary and remaining longer after each tidal event to such a degree that deep-water areas in the lower estuary were approaching ocean salinities most of the time. Adjacent shallow water habitats had similarly become increasingly more saline. The report warned that these "increases in salinity have been small and incremental, and lacking any long-term physical research in the estuary, practically unnoticed." Id. at 27. Although this report was issued in 1982, the FSEIS does not address or analyze this issue. Because the Corps does not mention or consider the effects of past and present actions that have already affected salinity in the estuary to a significant degree the Corps cannot adequately evaluate the Channel Deepening Project's cumulative effects.

83. In addition to these past and present impacts, the Corps has failed to adequately analyze the cumulative effects of reasonably foreseeable maintenance dredging and disposal actions in the Willamette River, an area suffering from heavy toxic contamination. Indeed, while the Corps admits that maintenance dredging is reasonably foreseeable, the only "analysis" in the

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FSEIS for Willamette River maintenance dredging is the conclusory statement that "[w]ith the exception of dredging potentially contaminated material, the impacts of which will be minimized by the letter of agreement [between Oregon and the federal government], the effects . . . are expected to be similar to that described for the channel in the Columbia." FSEIS at 6-78. Conclusory statements about an issue as significant and unstudied as the resuspension of toxic sediments within the estuary do not satisfy the Corps' duty to analyze cumulative effects.

84. Finally, the Corps fails to provide any meaningful analysis of other reasonably foreseeable future development, industrialization, and other actions that will occur in the project area. Instead, the Corps offers only the observation that "[f]uture actions, including the project, are taking place in dramatically different regulatory and political climate than did the most damaging historic actions . . . . unlike historic actions, future projects will avoid and minimize effects to key resources, and provide appropriate mitigation for unavoidable losses.." FSEIS at 6-93. This wishful thinking cannot take the place of a full analysis of reasonably foreseeable future actions.

D. Alternatives

85. The Corps failed to consider several alternatives to the Project that would meet the purpose and need and that would either help to mitigate the impacts of channel deepening or have beneficial environmental impacts. Two of them are described briefly below.

86. First, the Corps did not consider alternatives to the "ecosystem restoration" projects that it proposed in the FSEIS and adopted in the ROD. As NOAA Fisheries and other agencies have made clear, restoration of the Columbia River estuary is critical to the recovery of the River's salmon and steelhead. After a century of diking, dredging, filling wetlands, and other actions, there are a number of habitat types and habitat features that are in need of restoration to protect fish and wildlife. Instead of examining a variety of alternatives that considered

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combinations of these different types of habitat restoration actions, the Corps focused on only one proposal for ecosystem restoration features that excluded lands in "multiple party private ownerships" and was "predicated upon availability of lands for restoration purposes targeting lands already in public ownership." FSEIS, Vol. 4 at p. State-9 (response to State comment S-9). The Corps refused to consider any alternatives to its sole slate of proposed restoration activities because it believed that land ownership, easements, and other unspecified fiscal and "other physical and/or/social/political constraints" made restoration "impractical at this time." FSEIS, Vol. 4 at p. Stakeholders/Special Interests, response to comment SS-194. There is no information provided that would allow the public and decisionmakers to evaluate different restoration prospects such as locations, types of restoration actions, timeframes for restoration, or habitat types, nor is there any evidence that the Corps actually considered these factors.

87. Second, the Corps did not examine alternatives to its proposed dredged spoil disposal plan that would help the agency meet its navigation infrastructure repair needs and mitigate for erosion caused by the navigation project. Stopping the erosion and repairing the damage done to the MCR jetties thus far will require significant financial resources, and will require a significant amount of dredged material. Once this material is removed from the estuary and the littoral system, however, the possibility of using for these purposes is effectively lost. Even though the FEIS specifically included consideration of a new disposal site for MCR dredge spoils, the Corps did not disclose the problems with the jetties and coastal erosion and therefore did not consider an alternative for dredged spoils disposal to help meet the need for repair.

88. Finally, the Corps' reliance on the 1998 DMMP/SEIS as the "No Action Alternative" further undermines the FSEIS's alternatives analysis. The DMMP/SEIS reviewed a shift in the Corps' dredged spoil disposal philosophy towards removal of materials from the

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River and littoral system. The DMMP/SEIS, however, suffers from many of the same legal deficiencies as the FSEIS and cannot properly form the basis for the Corps' alternatives analysis in the FSEIS. See ¶¶ 91-100.

E. Flawed Economic Analysis

89. There are a number of serious flaws in the Corps' cost-benefit analysis for the Channel Deepening Project. These errors, which include the Corps' failure to follow its own regulations and guidelines governing economic analyses, are so significant as to render the Corps' cost-benefits analysis misleading. Indeed, according to its own panel of economic experts, portions of the Corps' economic analysis "appear[] self-contradictory." U.S. Army Corps of Engineers, "Original Review Panel Comments and Benefit Review Team on Responses," at 9 (Jan. 10, 2003). Examples of the Corps' inadequate and misleading cost-benefit analysis include, but are not limited to, the following:

a. The Corps failed to include and analyze the costs of transporting and disposing in the ocean deep-water site at least 12 million cubic yards of sediment that was originally destined for the Lois-Mott and Miller-Pillar "ecosystem restoration" features that the Corps abandoned in the ROD.

b. The Corps failed to include and analyze the related costs imposed by the Channel Deepening Project's contribution to continued coastal erosion caused by removing sediment from the littoral system through disposal or the deep-water ocean and/or upland disposal sites. In the past ten years, for example, between $70 and $100 million has been spent to repair beach erosion in southwest Washington alone.

c. The Corps failed to include and adequately analyze the related costs associated with the Channel Deepening Project's contribution to the continued erosion of the navigation system's infrastructure, including, but not limited to the MCR jetties. As discussed above, the Project's removal of additional sediment from the littoral system will exacerbate destabilization of the jetties, which are currently in desperate need of repair and rebuilding. In a separate study, the Corps estimated replacement of even twenty-percent of the jetties at $140 to $260 million. Moritz, et al. "100-Years of Shoal Evolution at the Mouth of the Columbia River: Impacts On Channel, Structures, and Shorelines" at 9.

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d. The Corps has failed to consider whether the Channel Deepening Project produces any net economic benefits for the nation or the region. In its analysis, the Corps repeatedly claims that the Project will not lead to any growth in the amount of cargo arriving or departing from Columbia River ports. In fact, the Technical Review Panel confirmed that the Corps' analysis assumed that the same ships carrying the same amount of cargo would call on Portland with or without the Project. If the Corps' analysis had found that the Project would lead to capturing new cargo from the areas around the Columbia River ports, then according to its own guidance, the agency must conduct a multi-port analysis to determine whether the Project would still constitute a net economic benefit. The Corps, however, has "assumed there would be no cargo growth in large part to avoid a multi-port analysis, and that assumption leads to an inescapable analytic dilemma…." Technical Review Panel Comments and Benefit Review, at 3. A multi-port analysis for the Project would show that any benefits to Columbia ports would reduce benefits to ports elsewhere in the region thereby reducing the regional and national benefits of the Project. In addition, the Corps fails to account for the fact that the benefits from the Channel Deepening Project will accrue largely, if not entirely, to the owners of foreign vessels, rather than to domestic shippers, and will therefore have little to no benefit to the U.S. economy.

e. The Corps did not address the short- and probable long-term decline in lower Columbia ports as a container ship destination due to costs associated with the amount of time that it takes container ships to access the port and the fact that many container ships are currently capable of drafting over 47 feet. Other deep-water west coast ports are becoming increasingly more competitive with these deeper-draft ships. Nor did the Corps mention or analyze other factors such as the impacts of construction of a new grain exporting facility in Gray's Harbor, WA or that some Columbia River basin shippers have begun to ship goods by rail to the Port of Seattle rather than shipping cargo downstream to the Lower Columbia River ports.

f. The Corps' analysis fails to include and/or adequately analyze the costs associated with many of the "ecosystem restoration" features of the Channel Deepening Project despite the fact that the Project as defined by the "purpose and need" includes these ecosystem restoration features and despite the fact that the Corps relies upon them to produce environmental benefits.

g. The Corps' analysis fails to include the costs of continued maintenance of the MCR project, including the costs associated with repair and upkeep of the deteriorating jetties, which must be maintained in order to make the navigation channel economical. 1999 FEIS at 1-2.

h. The Corps' analysis of the costs of the Channel Deepening Project is based upon a faulty estimate of the amount of material to be dredged and disposed of over the life of the Project.

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i. The Corps' analysis mistreats risk and uncertainty for the Channel Deepening Project. There are a number of actions and variables with economic consequences that either have occurred or are likely to occur in the future, and/or which carry with them large economic risks. Because each of these variables can affect the Corps' cost-benefit ratio for the Project, sound economic principles and the agency's own guidance require the Corps to analyze and account for the economic consequences in its cost-benefit analysis of actions which are either highly certain to occur, or which carry a high level of risk even if they are not certain to occur.

90. In sum, the Corps' cost-benefit analysis fails to apply sound economic principles set forth in its own guidance documents and regulations, and has ignored its own expert panel's recommendations. The result is that the Corps has presented a factually incorrect, incomplete, and fundamentally misleading economic justification for selecting its preferred alternative. Thus, while the Corps asserts in the FSEIS and ROD that the benefits of this alternative substantially outweigh its costs, the analysis that supports this conclusion is one-sided, incomplete, and misleading. In fact, the costs of deepening the lower Columbia River navigation channel by an additional three feet likely outweigh the benefits of the proposal.

II. THE DMMP/SEIS

91. Before it began the NEPA process for the Channel Deepening Project, the Corps' most recent analysis of its dredging and disposal activities in the Columbia and Willamette Rivers was the Dredged Material Management Plan and Supplemental Environmental Impact Statement ("DMMP/SEIS"). A draft of the DMMP/SEIS was issued in January 1998 with a final document produced on June 19, 1998 and a ROD was signed on November 3, 1998. The DMMP/SEIS serves as the "No Action Alternative" for the Channel Deepening Project.

92. The DMMP/SEIS supplements a 1975 EIS prepared for deepening the Columbia and Willamette Rivers from 35 to 40 feet. The purpose of the DMMP is to create a 20-year disposal plan and to consider the effects of proposed changes in dredging and disposal practices.

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93. The overarching goal of the DMMP/SEIS is to decrease the cost of maintenance dredging by shifting disposal from in-water areas and shorelines, which recycle dredged sands, to upland and ocean sites, which remove these materials from the system, thereby decreasing maintenance costs associated with re-dredging the same materials.

94. The DMMP/SEIS suffers from many of the same flaws as the FSEIS for the Channel Deepening Project. Most fundamentally, the DMMP/SEIS does not adequately evaluate the environmental impacts of its proposed shift in dredged spoil disposal sites. Moving away from in-water disposal and toward disposal practices that would remove sediment from the system, as proposed, would reduce the amount of material available for recycling in the environment by approximately 40 percent. Instead of evaluating the impacts of this change, however, the Corps simply concludes that upland disposal "would not alter existing sedimentation in the estuary or Pacific Ocean." DMMP/SEIS at 45.

95. For many key environmental effects, the DMMP/SEIS does not contain any environmental analysis at all. The DMMP's effects on ESA-listed salmon and other fish and wildlife, and important considerations, including loss of habitat from accretion, erosion, and salinity intrusion caused by dredging and disposal, are not analyzed. Instead, the Corps concludes that "the impacts to the aquatic environment are not expected to be any different than what is presently occurring." Id. at 47. It is impossible for the Corps to perform a meaningful evaluation of the effects of continuing the status quo if it does not disclose and analyze the effects that status quo is having on any of these resources.

96. The DMMP/SEIS also fails to evaluate the impacts of dredging on increasing toxic contamination in the river's fish and wildlife. Similar to its statements in the FSEIS for the Channel Deepening Project, the Corps explains away concerns about mobilizing toxic materials

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through dredging and disposal in the Columbia River by stating, without evaluation, only that the materials exposed would be "sandy." DMMP/SEIS at 125. The DMMP/SEIS concludes that dredging in the Willamette River, which is now a Superfund site, poses no harm because the Corps plans to avoid contaminated sites and because it can conduct more testing if there are concerns. Putting off this analysis and testing of the effects of dredging contaminated sediments until after the EIS is completed does not satisfy the requirement to take a "hard look" at the impacts of a project *before* it is allowed to proceed.

97. Maintaining an open MCR through dredging and maintenance of intact jetties is essential to the continued use of the 40-foot channel. Despite this, the DMMP/SEIS contains no discussion of the effects of the MCR dredging and disposal on navigation or its effects on erosion along the coast and in the estuary. Moreover, even though the Corps knew by the mid-1990s that the jetties were eroding and in need of repair, the DMMP/SEIS did not even mention, let alone analyze, the jetties, their current status, or maintenance needs.

98. The DMMP/SEIS's evaluation of cumulative impacts is even more narrow than that for direct and indirect effects. Instead of taking a "hard look" at the myriad past, present, and reasonably foreseeable future effects that have taken place in the estuary and that are affecting the environment, the DMMP/SEIS limits the scope of its "cumulative effects" discussion to past maintenance dredging, dredged spoil disposal sites, and a mere cataloguing of acres of habitat lost from various activities. The Corps narrowly concludes only that "the Proposed Plan represents a reduction in cumulative impacts associated with upland and shoreline disposal." DMMP/SEIS at 132. Although it mentions several of the impacts from actions such as pile dike construction, there is no analysis – or in many cases, any discussion whatsoever – of any past or present activities in the estuary, including: (1) the MCR Project; (2) the MCR jetties;

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(3) operation of the FCRPS; (4) increased development and industrialization; (5), creation of dredged spoil islands and installation of pile dikes; (6) diking of estuarine wetlands; or even (7) any detail about the past effects of dredging and disposal from the river channel. As for reasonably foreseeable future actions, the DMMP/SEIS simply notes without further analysis that continued development of port facilities is a possible outcome of the O&M dredging. Such cursory treatment does not satisfy NEPA's cumulative impact requirement.

99. Because it failed to consider the cumulative effects of other actions in the estuary, the DMMP/SEIS evaluated only four alternatives, including its No Action alternative, none of which involved the use of dredged material to avoid or mitigate the economic and environmental costs of erosion that are caused by the navigation project or other actions, many of which would be exacerbated by following the DMMP/SEIS's recommendations on dredged spoil disposal. Stopping the erosion and repairing the damage done to the MCR jetties thus far will require significant financial resources, and will require a significant amount of dredged material, but as with the FSEIS for the Channel Deepening Project, the Corps did not examine alternatives to its proposed dredged spoil disposal plan that would help the agency meet its navigation infrastructure repair needs and mitigate for erosion caused by the navigation project. Even though the Corps understood the maintenance needs of the jetties by the mid-1990s, it did not disclose those problems and therefore did not consider an alternative for dredge spoils disposal to respond to the need.

100. Finally, the Corps' economic analysis suffers from many of the same flaws as that conducted for the Channel Deepening Project. See ¶ 89. Most notable, however, is that the DMMP/SEIS fails to conduct any analysis of the costs and benefits of continued dredging of the navigation channel. Instead, the Corps notes only the economic benefits from decreasing the

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amount of sediment that will need to be redredged during maintenance dredging. This limited analysis fails to consider or account for the costs associated with removing sediment from the system (including increased coastal erosion, jetty deterioration, and), current dredging and disposal methods, navigation project effects on salmon habitat, and the continued viability of Portland as a deep-water port.

CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF

NOAA FISHERIES' VIOLATION OF ESA AND APA

101. Plaintiff incorporates by reference all preceding paragraphs.

102. The ESA requires federal agencies to insure that their actions are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat. 16 U.S.C. § 1536(a)(2).

103. NOAA has violated the requirements of ESA section 7 and its implementing regulations by arbitrarily, capriciously, and without any rational basis concluding in the Channel Deepening BiOp and the O&M BiOp that the proposed actions are not likely to jeopardize listed species or destroy or adversely modify their critical habitat, and by issuing biological opinions that are otherwise not in accordance with law. These violations include: (1) failing to insure that the actions are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat for such species; (2) failing to provide information detailing the effects of the actions on threatened or endangered species and their critical habitat; (3) failing to use the best scientific and commercial data available; (4) relying on proposed research, monitoring, and adaptive management as mitigation to offset the Channel Deepening Project's impacts; (5) failing to accurately or adequately describe, delineate, or consider the environmental baseline of the area that includes the agency

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action; and (6) failing to quantify take in the incidental take statements issued with the Channel Deepening BiOp and O&M BiOp.

104. The APA authorizes reviewing courts to set aside federal agency action that is arbitrary, capricious, an abuse of discretion, or not in accordance with law. 5 U.S.C. § 701-706.

105. NOAA Fisheries' actions and omissions in promulgating the Channel Deepening BiOp and O&M BiOps are therefore arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law, in violation of the ESA and the APA, 5 U.S.C. §§ 701-706.

THE CORPS' VIOLATIONS OF NEPA AND APA

SECOND CLAIM FOR RELIEF

VIOLATION OF NEPA 42 U.S.C. § 4332 AND APA:
FAILURE TO ADEQUATELY CONSIDER THE ENVIRONMENTAL CONSEQUENCES

106. Plaintiff incorporates by reference all preceding paragraphs.

107. NEPA's implementing regulations require the Corps to analyze both the "direct effects, which are caused by the action and occur at the same time and place" and the "indirect effects, which are caused by the action and are later in time or farther removed in distance," of its actions. 40 C.F.R. § 1508.8 (a), (b).

108. For the reasons described above, the Corps has violated NEPA and the FEIS, FSEIS, and ROD for the Channel Deepening Project and the DMMP/SEIS and its ROD are invalid because they fail to adequately assess the environmental consequences of these actions, including, but not limited to, the direct and indirect effects.

109. The APA authorizes reviewing courts to set aside federal agency action that is arbitrary, capricious, an abuse of discretion, and not in accordance with law. 5 U.S.C. § 701-706.

110. By issuing EISs that fail to meet the standards laid out in NEPA, its implementing

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regulations, and governing case law, the Corps has acted in a manner that is arbitrary, capricious, an abuse of discretion, and not in accordance with law, in violation of NEPA and the APA. 5 U.S.C. § 701-706.

THIRD CLAIM FOR RELIEF

VIOLATION OF NEPA 42 U.S.C. § 4332 AND APA:
FAILURE TO CONSIDER CONNECTED AND INTERDEPENDENT ACTIONS

111. Plaintiff incorporates by reference all preceding paragraphs.

112. NEPA and its implementing regulations require the scope of the Corps' analysis to include "connected actions" that "automatically trigger other actions," "cannot or will not proceed unless other actions are taken previously," or "are interdependent parts of a larger action and depend on the larger action for their justification." 40 C.F.R. § 1508.25.

113. For the reasons described above, the Corps has violated NEPA and the FEIS, FSEIS, and ROD for the Channel Deepening Project and the DMMP/SEIS and its ROD are invalid because they fail to adequately assess connected actions.

114. The APA authorizes reviewing courts to set aside federal agency action that is arbitrary, capricious, an abuse of discretion, and not in accordance with law. 5 U.S.C. § 701-706.

115. By issuing EISs that fail to meet the standards laid out in NEPA, its implementing regulations, and governing case law, the Corps has acted in a manner that is arbitrary, capricious, an abuse of discretion, and not in accordance with law, in violation of NEPA and the APA. 5 U.S.C. § 701-706.

FOURTH CLAIM FOR RELIEF

VIOLATION OF NEPA 42 U.S.C. § 4332 AND APA:
FAILURE TO ADEQUATELY EVALUATE CUMULATIVE EFFECTS

116. Plaintiff incorporates by reference all preceding paragraphs.

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117. NEPA and its implementing regulations require the Corps to analyze the cumulative effects of their actions. 40 C.F.R. §§ 1508.25 (a)(2), (c), 1508.7, 1508.8. A cumulative impact is the "incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7.

118. For the reasons described above, the Corps has violated NEPA and the FEIS, FSEIS, and ROD for the Channel Deepening Project and the DMMP/SEIS and its ROD are invalid because they fail to adequately assess the cumulative effects of the actions in conjunction with past, present, and reasonably foreseeable future actions.

119. The APA authorizes reviewing courts to set aside federal agency action that is arbitrary, capricious, an abuse of discretion, and not in accordance with law. 5 U.S.C. § 701-706.

120. By issuing EISs that fail to meet the standards laid out in NEPA, its implementing regulations, and governing case law, the Corps has acted in a manner that is arbitrary, capricious, an abuse of discretion, and not in accordance with law, in violation of NEPA and the APA. 5 U.S.C. § 701-706.

FIFTH CLAIM FOR RELIEF

VIOLATION OF NEPA 42 U.S.C. § 4332 AND APA:
FAILURE TO CONSIDER ALTERNATIVES TO PROPOSED ACTION

121. Plaintiff incorporates by reference all preceding paragraphs.

122. NEPA and its implementing regulations require completion of a valid environmental impact statement for every major federal action significantly affecting the environment. The impact statement must present alternatives to the proposed action. 42 U.S.C.

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§ 4332(C), (E). The CEQ regulations require the agency to "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. § 1502.14(a).

123. For the reasons described above, the Corps has violated NEPA and the FEIS, FSEIS, and ROD for the Channel Deepening Project and the DMMP/SEIS and its ROD are invalid because they fail to rigorously explore and evaluate all reasonable alternatives. Several alternatives to disposal of dredged sediment for each action, and the ecosystem restoration features included in the Channel Deepening Project are available, but the Corps failed to adequately evaluate any of them.

124. The APA authorizes reviewing courts to set aside federal agency action that is arbitrary, capricious, an abuse of discretion, and not in accordance with law. 5 U.S.C. § 701-706.

125. By issuing EISs that fail to meet the standards laid out in NEPA, its implementing regulations, and governing case law, the Corps has acted in a manner that is arbitrary, capricious, an abuse of discretion, and not in accordance with law, in violation of NEPA and the APA. 5 U.S.C. § 701-706

SIXTH CLAIM FOR RELIEF

VIOLATION OF NEPA 42 U.S.C. § 4332 AND APA:
MISLEADING AND INACCURATE ECONOMIC ANALYSIS

126. Plaintiff incorporates by reference all preceding paragraphs.

127. NEPA and its implementing regulations require the Corps to produce an Environmental Impact Statement that is factually accurate, well supported, and that fully discloses the impacts of an action to the public. 40 C.F.R. § 1502. This includes an agency's treatment of economic data. 40 C.F.R. § 1502.23 (cost benefit analysis); § 1508.8 (EIS must evaluate economic effects).

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128. For the reasons described above, the Corps has violated NEPA and the FEIS, FSEIS, and ROD for the Channel Deepening Project and the DMMP/SEIS and its ROD are invalid because they incorporate a fundamentally misleading, incomplete, and inaccurate economic analysis. In actuality, the economic benefits of Channel Deepening are marginal or likely outweighed by the economic and environmental costs that the Project imposes.

129. The APA authorizes reviewing courts to set aside federal agency action that is arbitrary, capricious, an abuse of discretion, and not in accordance with law. 5 U.S.C. § 701-706.

130. By issuing EISs that fail to meet the standards laid out in NEPA, its implementing regulations, and governing case law, the Corps has acted in a manner that is arbitrary, capricious, an abuse of discretion, and not in accordance with law, in violation of NEPA and the APA. 5 U.S.C. § 701-706.

PRAYER FOR RELIEF

WHEREFORE, plaintiff respectfully requests that the Court:

1. Adjudge and declare that NOAA Fisheries has violated ESA Section 7 and its implementing regulations by making no-jeopardy/no-adverse modification findings in the Channel Deepening and O&M BiOps that are arbitrary, capricious, an abuse of discretion and contrary to law;

2. Enjoin NOAA Fisheries to withdraw the BiOp and incidental take statement for the Channel Deepening Project, notify the Corps that the BiOp and incidental take statement have been withdrawn, and prepare a BiOp for the Channel Deepening Project that complies with the requirements of the ESA;

3. Enjoin NOAA Fisheries to withdraw the O&M BiOp and incidental take statement, notify the Corps that the O&M BiOp and incidental take statement have been

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705 Second Ave., Suite 203
Seattle, WA 98104
(206) 343-7340

withdrawn, and prepare an O&M BiOp that complies with the requirements of the ESA;

4. Declare and adjudge that the FEIS, FSEIS, and ROD issued by the Corps for the Channel Deepening Project and the DMMP/SEIS and its ROD are arbitrary, capricious and not in accordance with law and that the Corps is in violation of NEPA and the APA;

5. Enjoin the Corps to withdraw the FEIS, FSEIS, and ROD for the Channel Deepening Project and the DMMP/SEIS and its ROD;

6. Enjoin the Corps from commencing the Channel Deepening Project in the Lower Columbia River pending completion of a valid EIS, ROD, and biological opinion;

7. Enjoin the Corps to commence preparation of a new DMMP, EIS, and ROD that resolve the violations of law complained of herein;

8. Award plaintiff their reasonable fees, costs, expenses, and disbursements, including attorneys' fees, associated with this litigation; and,

9. Grant plaintiff such further and additional relief as the Court may deem just and proper.

Respectfully submitted this 14th day of June, 2004.

/s/ Todd D. True
TODD D. TRUE (WSB #12864)
AMY WILLIAMS-DERRY (WSB #28711)
Earthjustice
705 Second Avenue, Suite 203
Seattle, WA 98104
(206) 343-7340
(206) 343-1526 *[FAX]*
ttrue@earthjustice.org
awilliams-derry@earthjustice.org

Attorneys for Plaintiff Northwest Environmental Advocates

CERTIFICATE OF SERVICE

I am a citizen of the United States and a resident of the State of Washington. I am over 18 years of age and not a party to this action. My business address is 705 Second Avenue, Suite 203, Seattle, Washington 98104.

On June 14, 2004, I served a true and correct copy of the following documents on the parties listed below:

1. First Amended Complaint for Declaratory and Injunctive Relief.

Robert L. Gulley, Trial Attorney
Fred Disheroon, Special Litigation Counsel
U.S. Department of Justice
Wildlife and Marine Resources Section
Environment and Natural Resources Division
Benjamin Franklin Station, P.O. Box 7369
Washington, D.C. 20044-7369
street address:
601 "D" Street, Room 3033
Washington, D.C. 20004
Phone: 202-305-0500
Fax No. 202-305-0275
Attorney for Federal Defendants

☐ via facsimile
☐ via overnight courier
☐ via first-class U.S. mail
☐ via hand delivery
☒ via electronic service by Clerk

Beth S. Ginsberg
Eric Laschever
Stoel Rives
600 University Street, Suite 3600
Seattle, WA 98101-3197
Phone: 206-624-0900
Fax No. 206-386-7500
Attorneys for Intervenor-Defendant Applicant The Sponsor Ports

☐ via facsimile
☐ via overnight courier
☐ via first-class U.S. mail
☐ via hand delivery
☒ via electronic service by Clerk

I, Catherine Hamborg, declare under penalty of perjury that the foregoing is true and correct. Executed this 14th day of June, 2004, at Seattle, Washington.

Catherine Hamborg

Earthjustice
705 Second Ave., Suite 203
Seattle, WA 98104
(206) 343-7340