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Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT
DISTRICT OF OREGON

NATIONAL WILDLIFE FEDERATION, et al.,

Plaintiffs,

and

STATE OF OREGON,

Intervenor-Plaintiff,

v.

NATIONAL MARINE FISHERIES SERVICE, U.S.
ARMY CORPS OF ENGINEERS, and U.S. BUREAU
OF RECLAMATION,

Defendants,

and

NORTHWEST IRRIGATION UTILITIES, PUBLIC
POWER COUNCIL, WASHINGTON STATE FARM
BUREAU FEDERATION, FRANKLIN COUNTY
FARM BUREAU FEDERATION, GRANT COUNTY

Civ. No. 01-0640-RE (Lead Case)
CV 05-0023-RE
(Consolidated Cases)

FOURTH SUPPLEMENTAL
COMPLAINT FOR
DECLARATORY AND
INJUNCTIVE RELIEF

FARM BUREAU FEDERATION, STATE OF
IDAHO, INLAND PORTS AND NAVIGATION
GROUP, and KOOTENAI TRIBE OF IDAHO,

Intervenor-Defendants.

COLUMBIA SNAKE RIVER IRRIGATORS
ASSOCIATION, and EASTERN OREGON
IRRIGATORS ASSOCIATION,

Plaintiffs,

v.

CARLOS M. GUTIERREZ, in his official capacity as
Secretary of Commerce, NOAA FISHERIES, and D.
ROBERT LOHN, in his official capacity as Regional
Director of NOAA Fisheries,

Defendants.

1. Pursuant to Fed. R. Civ. P. 15(d) and LR 15.1(b) and (c), plaintiffs, National Wildlife Federation, et al. (“NWF”), hereby supplement their First Amended Complaint for Declaratory and Injunctive Relief, filed July 2, 2001, with this Fourth Supplemental Complaint, in order to address new circumstances and subsequent actions by defendant National Marine Fisheries Service (“NMFS” or “NOAA”) and other federal agencies. Specifically, on May 5, 2008, NOAA issued its final Endangered Species Act – Section 7 Consultation Biological Opinion for the Consultation on Remand for Operation of the Columbia River Power System and 11 Bureau of Reclamation Projects in the Columbia Basin, etc. (the “2008 FCRPS BiOp”). The 2008 FCRPS BiOp replaces and supersedes the 2004 FCRPS BiOp which was the subject of this case and the Court’s prior rulings, including its most recent summary judgment and remand orders. National Wildlife Federation v. National Marine Fisheries Service, 2005 WL 1278878 (D. Or. May 26, 2005) (Docket #986); National Wildlife Federation v. National Marine Fisheries

Service, CV-01-640-RE, Opinion and Order of Remand (Oct. 7, 2005) (Docket #1087); aff'd, NWF v. NMFS, 524 F.3d 917 (9th Cir. 2008) (amended opinion). For the reasons set forth more fully below, this fourth supplemental complaint seeks review of the 2008 FCRPS BiOp for violations of the Endangered Species Act (“ESA”), 16 U.S.C. §§ 1531 et seq., and the Administrative Procedure Act (“APA”), 5 U.S.C. §§ 551 et seq.

PRELIMINARY STATEMENT

2. This action seeks review of the 2008 FCRPS BiOp which NOAA prepared on remand through a reinitiated consultation with the U.S. Army Corps of Engineers (the “Corps”), the Bonneville Power Administration (“BPA”), and the U.S. Bureau of Reclamation (“BOR”) (collectively the “Action Agencies”) under Section 7 of the Endangered Species Act, 16 U.S.C. § 1536. The 2008 FCRPS BiOp addresses the effects of the Federal Columbia River Power System (“FCRPS”) and eleven BOR projects in the Columbia River basin on ESA-listed salmon and steelhead. NOAA provided a copy of this opinion to the Court on or about May 5, 2008, and the opinion and related documents are also available at <http://www.nwr.noaa.gov/Salmon-Hydropower/Columbia-Snake-Basin/final-BOs.cfm>.

3. Although the 2008 FCRPS BiOp concludes that the Action Agencies’ “Prospective Actions” – which are treated as a reasonable and prudent alternative (“RPA”) – will not jeopardize any ESA-listed salmon or steelhead ESUs/DPSs or adversely modify or destroy any of their designated critical habitat, the path NOAA takes to reach this conclusion departs markedly from the requirements of the ESA and its implementing regulations, fails to use the best available scientific information, and is otherwise arbitrary and capricious. Once again, as it did in 2004, NOAA has created from whole cloth a new kind of jeopardy analysis for this consultation that has not previously been employed in any biological opinion under ESA section 7. Contrary to the claims of the 2008 FCRPS BiOp, see, e.g., 2008 FCRPS BiOp at 1-6,

this new jeopardy analysis is not the product of a successful collaboration among the various sovereign interests during the remand of the 2004 FCRPS BiOp. Rather it departs from a framework agreed to by all of the parties in the collaboration and is instead built on a novel approach announced by NOAA in July and September of 2006, an approach that was sharply criticized by many of the remand participants, and one that is unscientific and legally flawed.

4. At the same time, the actions addressed in the 2008 FCRPS BiOp are not materially different from those in the 2004 Updated Proposed Act (“UPA”) or the earlier, failed RPA from the 2000 FCRPS BiOp. In fact, in some vital respects the actions considered in the 2008 FCRPS BiOp provide less protection for ESA-listed salmon and steelhead. In other words, rather than “look for what can be done to protect the species from jeopardy” as the law requires, NOAA has created yet another new jeopardy analysis tailored to focus narrowly “on what the establishment is capable of handling with minimal disruption,” Idaho Dept. of Fish & Game v. NMFS, 850 F. Supp. 886, 900 (D. Or. 1994), and has reached a no-jeopardy/no-adverse-modification finding for actions that do little to address the fundamental obstacles to the survival and recovery of ESA-listed salmon and steelhead in the Columbia River basin.¹

PARTIES

5. The plaintiffs in this action are:

A. National Wildlife Federation (“NWF”), the nation’s largest conservation advocacy and education organization. Founded in 1936, NWF is a non-profit organization with

¹ NWF will promptly send a 60-day notice of intent to sue the Action Agencies for parallel and additional violations of the ESA, as well as violations of the Clean Water Act (“CWA”), 33 U.S.C. § 1231 et seq., arising out of their implementation of the actions addressed in the 2008 FCRPS BiOp. Upon the expiration of the mandatory 60-day period, and unless the Action Agencies take steps to correct their illegal actions, NWF will seek to further amend this supplemental complaint to add claims for violations of the ESA, CWA, and APA against those agencies.

its headquarters in Reston, Virginia, and nine regional offices, including the Western Natural Resource Center in Seattle, Washington. NWF's mission is to educate, inspire, and assist individuals and organizations of diverse cultures to conserve wildlife and other natural resources and to protect the Earth's environment in order to achieve a peaceful, equitable, and sustainable future. As part of this mission, NWF and its over 4 million members and supporters are dedicated to protecting and restoring the Northwest's salmon runs, including those in the Columbia and Snake Rivers.

B. Washington Wildlife Federation, a nonprofit conservation organization based in Olympia, Washington, with members throughout the State. Washington Wildlife Federation is dedicated to the preservation, enhancement, and perpetuation of Washington's wildlife and wildlife habitat through education and conservation.

C. Sierra Club, a national environmental organization founded in 1892 and devoted to the study and protection of the earth's scenic and ecological resources – mountains, wetlands, woodlands, wild shores and rivers, deserts, plains, and their wild flora and fauna. Sierra Club has some 60 chapters in the United States and Canada, including chapters in Washington, Oregon, and Idaho, and a principal place of business in San Francisco, California.

D. Trout Unlimited ("TU"), a nonprofit coldwater fisheries conservation organization with national headquarters in Washington, D.C. and a regional office in Portland, Oregon. TU is dedicated to the protection of wild trout, salmon, and steelhead fishery resources. TU has more than 150,000 members nationwide and more than 12,000 members in the states of Oregon, Washington, Idaho, and Montana. TU's members live and recreate in the Columbia River basin and TU has long participated in efforts to maintain and restore Snake River and Columbia River basin anadromous fish.

E. Pacific Coast Federation of Fishermen's Associations ("PCFFA"), the largest organization of commercial fishermen on the west coast, with member organizations from San Diego to Alaska representing thousands of men and women in the Pacific fleet. Many of PCFFA's members are salmon fishermen whose livelihoods depend upon salmon as a natural resource and who, until recent fisheries closures, generated hundreds of millions of dollars in personal income within the region. PCFFA has its main office in Sausalito, California, and a Northwest regional office in Eugene, Oregon.

F. Institute for Fisheries Resources ("IFR"), a nonprofit corporation that constitutes the conservation arm of PCFFA and shares PCFFA's offices in Sausalito, California, and Eugene, Oregon.

G. Idaho Rivers United ("IRU"), a nonprofit corporation organized under the laws of the State of Idaho with a principal place of business in Boise, Idaho. IRU and its approximately 2,400 members throughout the State of Idaho are dedicated to the protection and restoration of Idaho's rivers and river resources.

H. The Northwest Sportfishing Industry Association ("NSIA"), dedicated to restoring and protecting the region's rivers, lakes, and streams, keeping them healthy and full of fish. NSIA is a trade association of several hundred sporting goods manufacturers, wholesalers, retailers, marinas, guides, and charter boat operators. About 60 percent of the member businesses are located in Washington, 30 percent in Oregon, and the remainder are national organizations. NSIA's principal place of business is Oregon City, Oregon.

I. Columbia Riverkeeper, a nonprofit public interest organization, organized under the laws of the State of Washington, has a principal place of business in White Salmon, Washington, and an office in Hood River, Oregon. Columbia Riverkeeper, and its

approximately 2,400 members and supporters, works to restore and protect the water quality of the Columbia River and all life connected to it from its headwaters to the Pacific Ocean.

J. American Rivers, a national conservation organization with its principal place of business in Washington, D.C. and a Pacific Northwest office in Seattle, Washington. American Rivers and its approximately 32,000 members are devoted to protecting and restoring the nation's outstanding rivers and their landscapes and are active in pursuing environmental safeguards in national hydropower policy.

K. Federation of Fly Fishers ("FFF"), a national organization with approximately 11,000 members, dedicated to promoting fly fishing as a recreational use of aquatic resources and to preserving, protecting, and restoring aquatic resources, including water, fauna, and riparian lands. FFF has its principal place of business in Bozeman, Montana and regional councils or chapters that encompass Washington, Oregon, Idaho, Montana, and British Columbia.

L. NW Energy Coalition ("NVEC"), an alliance of over 95 environmental, civic, and human service organizations, progressive utilities, and businesses from Oregon, Washington, Idaho, Montana, Alaska, and British Columbia. NVEC promotes energy conservation and renewable energy resources, consumer and low-income protection, and fish and wildlife restoration on the Columbia and Snake Rivers. NVEC's headquarters are located in Seattle, Washington.

6. Plaintiffs and their members use the Columbia River and its tributaries throughout Idaho, Oregon, and Washington for recreational, scientific, aesthetic, and commercial purposes. Plaintiffs and their members derive or, but for the threatened and endangered status of salmon and steelhead in the Columbia River basin, would derive recreational, scientific, aesthetic, and

commercial benefits from the existence of these species in the wild through wildlife observation, study and photography, and recreational and commercial fishing within the Columbia River basin and the Pacific Ocean. The past, present, and future enjoyment of these benefits by plaintiffs and their members has been, is being, and will continue to be irreparably harmed by NMFS' disregard of its statutory duties, as described below, and by the unlawful injuries imposed on listed species by these actions.

7. The above-described aesthetic, conservation, recreational, commercial, scientific, and procedural interests of plaintiffs and their 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 NOAA's failure to comply with the ESA as described below. Plaintiffs have no adequate remedy at law.

8. Defendant National Marine Fisheries Service, also known as NOAA Fisheries, 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 Basin.

JURISDICTION AND VENUE

9. 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).

10. Venue is properly vested in this Court under 28 U.S.C. § 1391(e) because members of the plaintiff organizations reside in this district and these members and organizations do business here. In addition, a substantial part of the events or omissions giving rise to the claims in this case occurred in this district, and the defendant maintains offices in the district.

STATUTORY FRAMEWORK

11. The Administrative Procedure Act (“APA”) authorizes courts reviewing agency action to hold unlawful and set aside final agency action, findings, and conclusions that 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 are reviewed under this provision of the APA. See, e.g., Bennett v. Spear, 520 U.S. 154, 175 (1997).

12. 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).

13. 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 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 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).

14. 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, a “biological assessment” of the effects of the proposed action. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). The action agency’s biological assessment must be complete and accurate in order to comply with the ESA and its implementing regulations. Resources Ltd., Inc. v. Robertson, 35 F.3d 1300, 1304-5 (9th Cir. 1993).

15. If an agency determines that its action “may affect” but is “not likely to adversely affect” a listed species or its critical habitat, the ESA regulations permit “informal consultation,” in which there is no requirement for a biological opinion so long as NOAA concurs in writing with the “not likely to adversely affect” determination. 50 C.F.R. § 402.13. If NOAA does not concur in the “not likely to adversely affect” determination, or if the action agency determines that the action is “likely to adversely affect” the listed species, the agencies must engage in “formal consultation.” 50 C.F.R. §§ 402.02, 402.14(a).

16. For those actions that may adversely affect a species, NOAA 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. Id.; 16 U.S.C. § 1536(b)(3)(A).

17. In formulating its biological opinion and determining whether an action will jeopardize a species or destroy or adversely modify its critical habitat, NOAA must use the best scientific and commercial data available. 16 U.S.C. § 1536(a)(2). It also 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 to consider:

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

50 C.F.R. § 402.02.

18. If, based on an analysis of these factors and in light of the current status of the species, NOAA concludes that the proposed action is likely to jeopardize a listed species, or destroy or adversely modify its critical habitat, it 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). An RPA may only consist of measures that are within the scope of the action agency’s legal authority and jurisdiction, that can be implemented consistent with the purpose of the proposed action, and that will avoid jeopardizing the continued existence of the listed species. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.02. The effects of an RPA must be analyzed under the same section 7 framework (described above) as an action proposed by an action agency. If NOAA 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).

19. If NOAA reaches a no-jeopardy/no-adverse modification finding for either a proposed action or an RPA, it may also issue an incidental take statement for any take of a listed species that is likely to occur as a consequence of the action. 50 C.F.R. § 402.14(I). Take of listed species 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).

20. Once an action agency has initiated consultation, it cannot make any irreversible or irretrievable commitment of resources with respect to the proposed action that may foreclose the formulation or implementation of any RPA measures that could avoid jeopardy. Id. § 1536(d). This prohibition remains in effect until the completion of the consultation process. 50 C.F.R. § 402.09.

21. Separately, section 7(a)(1) of the ESA requires federal agencies to “utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered species and threatened species listed” under the Act. 16 U.S.C. § 1536(a)(1) (emphasis added). Like the duty to avoid jeopardy, this conservation duty is discharged, in part, in consultation with NOAA. Id. A program of “conservation” is one that brings the species to the point of recovery and delisting. Id. § 1532(3).

THE STATUS OF ANADROMOUS FISH IN THE COLUMBIA RIVER BASIN

22. Steelhead and salmon are anadromous fish. They are born and rear in fresh water tributaries of the Columbia River as far east as central Idaho, migrate downstream through the Columbia River to the Pacific Ocean where they grow and live as adults, and return to their natal streams and lakes to spawn and die. The Columbia River, its tributaries, and estuary historically provided habitat for chinook, sockeye, chum, and coho salmon, as well as steelhead. A century ago, between 10 and 30 million salmon returned to the Columbia each year. As of 1991, 67 stocks of Columbia River salmonids were extinct and 76 stocks were at risk of extinction.²

² In order for an imperiled species to enjoy the ESA’s protections, it must first be placed on the Act’s “threatened” or “endangered” species lists. 16 U.S.C. § 1533(c). A “species” that may be listed for protection under the ESA includes “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C. § 1532(16). When deciding whether to list populations of Pacific salmon for

23. During the course of their juvenile and adult lives, the few remaining Columbia River basin salmon and steelhead face numerous artificial obstacles to successful migration, reproduction, and rearing. Chief among these obstacles for many salmon and steelhead stocks are the effects of multiple federal hydroelectric, irrigation, and navigation dams and their associated reservoirs, facilities, and operations on the Columbia and Snake rivers. All of these facilities, individually and together, severely and adversely affect ESA-listed salmon and steelhead in a variety of ways, including but not limited to the following: (1) operation of these facilities alters the hydrograph of the Snake and Columbia Rivers, reducing and shifting river flows in ways that directly and indirectly kill and injure juvenile and adult salmon; (2) juvenile salmon migrating down the Snake and Columbia Rivers are killed and injured in significant numbers at the dams themselves, regardless of the route they take to pass each dam, although some dam passage routes are more lethal than others; (3) even before juveniles reach each dam, passage through the reservoirs created by the dams and operated as part of the federal facilities on these rivers takes a high toll on survival through mechanisms ranging from exposure to poor water quality, increased risks of disease, predation, and mortality, to trapping and stranding, disorientation, and stress; (4) once past these federal facilities, the toll the system imposes on juvenile salmon through reduced fitness and survival is still high even in the estuary and ocean, especially for juvenile fish captured and transported downstream around the federal dams and

protection as a “distinct population segment” under this definition, NOAA employs the concept of “evolutionarily significant unit” (“ESU”). A population of Pacific salmon is an ESU if it is “(1) . . . reproductively isolated from other population units of the same species, and (2) . . . an important component in the evolutionary legacy of the biological species.” 64 Fed. Reg. 14,308 14,310 (Mar. 24, 1999). In 2006, NOAA issued revised listings for all west coast steelhead populations applying the joint Distinct Population Segment (“DPS”) policy developed by NOAA and the U.S. Fish and Wildlife Service in 1996. See 71 Fed. Reg. 834 (Jan. 5, 2006) (revised steelhead listings); 61 Fed. Reg. 4,722 (Feb. 7, 1996). Though the ESU and DPS policies are

reservoirs by truck or barge. Returning adult salmon and steelhead also must face upstream passage through these federal facilities risking injury, death, and reduced reproductive success through a variety of system-imposed mechanisms ranging from delays at upstream fishway facilities, to fallback (leading to repeated passage of the same dam), disorientation, trauma, and disease.

24. While some of the Columbia River basin salmon and steelhead listed under the ESA are affected to a lesser extent by the FCRPS, those salmon and steelhead ESUs/DPSs that must successfully pass the four lower Snake River hydropower projects, as well as the four mainstem Columbia River projects, on their way to and from the ocean are particularly hard hit. These ESUs/DPSs include Snake River spring/summer chinook, Snake River fall chinook, Snake River sockeye, and Snake River steelhead. The upper Columbia River spring chinook and steelhead also are hard hit by passage through hydropower projects because they must navigate both the four federal mainstem Columbia River projects and as many as five additional federally-licensed mainstem projects to reach the ocean or return to their spawning streams. All of the above direct and indirect adverse effects on these ESUs/DPSs are exacerbated by FCRPS facilities on both the Columbia and Snake Rivers that lie upstream of federal and federally-licensed projects that block salmon and steelhead passage altogether.

25. In addition, Columbia River basin salmon and steelhead face other obstacles to successful migration, reproduction, and rearing including, but not limited to: habitat loss and degradation due to human activities such as development, logging, grazing, farming, and mining; disease and adverse effects to the genetic pool of wild fish caused by hatchery fish, as well as competition from hatchery fish for food and shelter; and commercial and recreational harvest for

consistent, there are differences in emphasis between them. The different emphases are not

human consumption.

26. As a consequence of these and other obstacles, populations of salmon and steelhead in the Columbia River basin have declined precipitously since the advent of European settlement. Before European settlement and the development of the Columbia River basin for hydroelectric power and other purposes, Snake River spring/summer chinook numbered over 1.5 million returning adult fish per year; Snake River fall chinook were once the most important fall chinook stock in the entire Columbia River basin with estimated annual returns of 72,000 fish earlier this century; upper Columbia spring chinook once had access to thousands of miles of spawning and rearing habitat that have been rendered inaccessible by the construction of Grand Coulee and Chief Joseph dams; and Snake River sockeye, with the longest and steepest migration route of any salmon in the world, once thrived in high-elevation lakes in central Idaho.

27. The remarkable historic productivity, abundance, and diversity of these fish has now collapsed. For example, the most recent analysis of the status of the upper Columbia spring chinook ESU, performed by the Interior Columbia Basin Technical Recovery Team (“ICTRT”),³ notes for each of the three populations in this ESU that still exist:

The . . . population is not currently meeting viability criteria. Of particular concern is the high risk rating with respect to abundance and productivity. The population cannot achieve any level of viability without improving its status . . . for both abundance and productivity. Spatial structure and diversity is also rated as high risk.

relevant here.

³ The Technical Recovery Teams are multi-disciplinary science teams chaired by NOAA’s Northwest or Southwest Fisheries Science Center staff. These teams were tasked with providing science support to recovery planners by developing biologically based viability criteria, analyzing alternative recovery strategies, and providing scientific review of draft plans. The Interior Columbia Basin Technical Recovery Team (“ICTRT”) was one of eight of such teams. Its work addresses seven of the Snake and upper Columbia River salmon and steelhead ESUs/DPSs addressed in the 2008 FCRPS BiOp. The ICTRT’s work products are available at <http://www.nwfsc.noaa.gov/trt/columbia.cfm>.

See http://www.nwfsc.noaa.gov/trt/col/trt_current_status_assessments.html.

28. In a separate paper evaluating the change in survival rates for these populations that would be needed to achieve the Team's productivity and abundance criteria for the ESU to be viable, the ICTRT found that population survival rates would need to improve by 105% from current rates for the Wenatchee population (even without error buffering), 144% for the Entiat population, and 175% for the Methow population. ICTRT, Required Survival Rate Changes to Meet Technical Recovery Team Abundance and Productivity Viability Criteria for Interior Columbia Basin Salmon and Steelhead Populations at 22 (Nov. 30, 2007) ("Survival Rate Change Memo"). To be sure, natural survival variability of this magnitude and more has occurred in salmon populations over time but improvements of this size in survival rates have not been achieved, let alone sustained, through changes to hydrosystem and related actions/operations for any salmon or steelhead population since they were first listed; in fact, quite the contrary, these populations have largely continued to decline.

29. For Snake River spring/summer chinook, the picture is much the same. The ICTRT current status analysis concludes that for virtually all of the remaining populations in this ESU, viability risks are high. No individual population of these fish has a ten-year geometric mean abundance that is currently anywhere near the ICTRT recovery abundance threshold for the population and at least three of the populations are functionally extirpated. See 2008 FCRPS BiOp at 8.3-47 (Table 8.3.2-1) (summarizing ICTRT analysis). In recent years, adult returns for this ESU have been lower than when it was first listed in 1992 despite the fact that the species has the most intact and abundant spawning habitat of any chinook ESU in the Columbia basin (or, for that matter, the lower 48 states).

30. The picture for Snake River fall chinook is similarly dire. As the ICTRT notes,

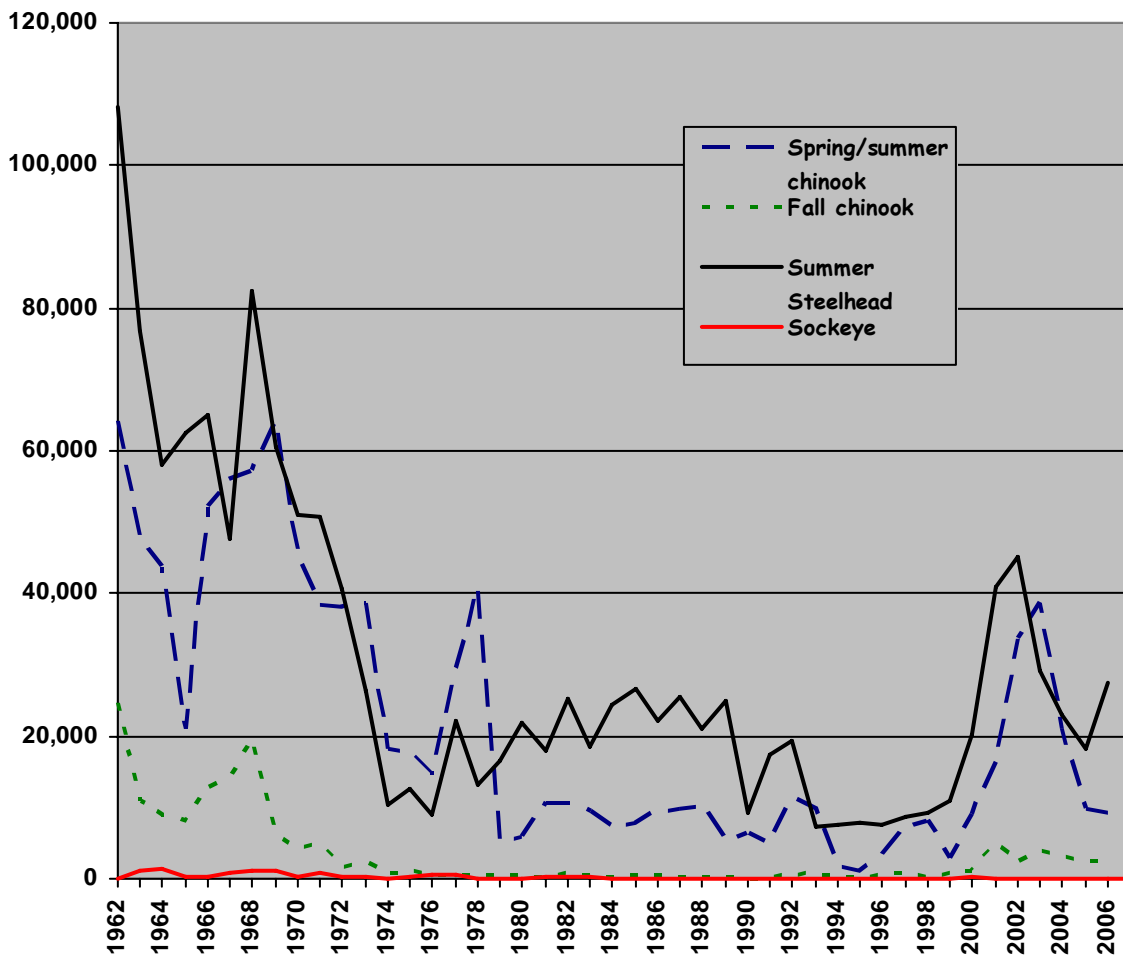
there is only one remaining population in this ESU located in the mainstem and tributaries below the Hells Canyon Complex dams. ICTRT, Survival Rate Change Memo at 25. “The extirpated mainstem populations above the Hells Canyon dam complex were relatively large and productive, dominating production for this ESU. . . . Re-establishing natural production in the historical core production areas above the Hells Canyon complex would substantially reduce risks to the long-term persistence of this ESU.” Id. In addition, over 100 miles of Snake River fall chinook spawning habitat was lost for these fish when it was inundated by the construction of the four lower Snake River dams. This loss constitutes nearly 20% of the historic spawning habitat for these fish. Because this ESU currently consists of only one population, the ICTRT viability criteria would require it to be very secure, with a 100-year viability risk of 1% or less, in order for the ESU to be considered viable. ICTRT, Viability Criteria for Application to Interior Columbia Basin Salmonid ESUs (Review Draft) at 8, 13 (Mar. 2007) (explaining that for an ESU like Snake River fall chinook with only one MPG and only one extant population, that population must be “highly viable” with a viability risk of 1% or less). This would require an improvement in survival rates between 20% and 41% after incorporating an error buffer. ICTRT, Survival Rate Change Memo at 26. “Available data clearly indicates that the hydropower system has a major affect [sic] on migration and rearing survivals for Snake River fall Chinook.” Id. at 25.

31. Finally, Snake River sockeye face perhaps the bleakest future of all. Only four adult fish returned to Redfish Lake in 2007. None of these fish spawn naturally any longer; they are now – and have been for years – sustained entirely by a captive breeding and hatchery program at Redfish Lake. With the notable exception of 2000 when some 257 adult fish returned, returns of adult sockeye to Redfish Lake have been in the low single digits, or

occasionally in the low double digits – with several years where no adults made it back to spawn at all – for most of the past two decades. The status of this ESU is so diminished that the Independent Science Review Panel to the Northwest Power Planning and Conservation Council recommended discontinuing the captive-breeding/hatchery program – which would almost surely lead to the species’ extinction – unless steps are taken to dramatically improve conditions in the species’ downstream migration corridor, the mainstem Snake and Columbia Rivers. Of course, the ESA does not allow such a choice absent exemption proceedings under 16 U.S.C. § 1536(h). And even if those proceedings were invoked, an exemption would not be proper because actions are available that would avoid extinction and jeopardy to this and other Snake River ESUs (including, but not limited to, removal of the four dams on the lower Snake River).

32. The following graph reflects the returns of wild adult Snake River spring/summer chinook, fall chinook, steelhead, and sockeye from 1962 through 2006 or 2007, depending on the ESU/DPS.⁴

⁴ Sources for graph: All numbers are escapement to Lower Granite Dam (not actual spawner counts). For Snake River spring/summer chinook, data from 1962 to 1978 are from the Idaho Department of Fish and Game (IDFG). Data from 1979 to 2006 is from NOAA’s 2007 Upper Snake River Biological Assessment (at 114). 2007 number is an estimate by American Rivers staff based on data from the Washington State Department of Fish and Wildlife’s and Oregon Department of Fish and Wildlife’s January 31, 2008 Columbia River compact report. For Snake River fall chinook, data from 1962 to 1974 are from IDFG. Data from 1975 through 2006 are from the 2007 Upper Snake River Biological Assessment at 111. Fall chinook data for 2007 is not yet available. Snake River summer steelhead (the weaker B-run, or winter component, of this steelhead DPS is not included in these numbers) and Snake River sockeye numbers are from the U.S. v. Oregon Technical Advisory Committee.



33. As a consequence of these dramatic and ongoing population declines, NOAA has listed the following salmon and steelhead ESUs/DPSs in the Columbia River basin as threatened or endangered and designated their migratory, spawning, and rearing habitat in the basin as critical habitat: Snake River sockeye, Snake River spring/summer chinook, Snake River fall chinook, Snake River steelhead, Upper Columbia River steelhead, Lower Columbia River steelhead, Upper Columbia River spring-run chinook, Lower Columbia River chinook, Middle Columbia River steelhead, Upper Willamette River steelhead, Upper Willamette River chinook, Columbia River chum, and Lower Columbia River coho.

PROCEEDINGS REGARDING THE 2000 FCRPS BIOP

34. On December 21, 2000, NOAA released the 2000 FCRPS BiOp. The jeopardy analysis in this opinion used a “five-step approach for applying ESA section 7(a)(2) [jeopardy] standards developed in the 1995 FCRPS Biological Opinion . . . ,” 2000 FCRPS BiOp at 1-8 to 1-15, a framework that includes:

a. Defining the biological requirements and current status of each listed species through a broad look at the species-level to determine the health, status, and trends of a particular ESU, given all of the actions that affect the fish within the ESU at various life stages. The purpose of the range-wide review is to provide the big picture of how well or how poorly the entire species is faring. NMFS then adds the impacts of the action to this larger context when it makes its jeopardy determination.

b. Evaluating the effects of actions in the environmental baseline on the species’ current status.

c. Determining the effects of the proposed or continuing action on listed species.

d. Determining whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the effects of the environmental baseline, and any cumulative effects, and considering measures for survival and recovery specific to other life stages. NMFS indicated that its “jeopardy standard” would be met if the mortality attributable to the proposed action was below a level that, when combined with mortality occurring in other life stages, provides a high likelihood of survival and a moderate to high likelihood of recovery.

Id. at 1-9. NOAA elaborated on this standard by noting that:

At the species level, NMFS considers that the biological requirements for survival, with an adequate potential for recovery, are met where there is a high likelihood that the species’ population will remain above critical escapement thresholds over a sufficiently long period of time. Additionally the species must have a moderate to high likelihood that its population will achieve its recovery level within an adequate period of time.

Id. If the proposed action would cause jeopardy or adverse modification of critical habitat under the requirements of this fourth step, NOAA indicated that it would proceed to a fifth step of identifying a reasonable and prudent alternative that would avoid jeopardy and adverse

modification if it could do so.

35. In the course of applying this approach to both the proposed action and an eventual reasonable and prudent alternative in the 2000 FCRPS BiOp, NOAA concluded that information from then incomplete recovery planning efforts would provide the best basis for assessing whether an action or RPA would avoid jeopardy and adverse modification. *Id.* at 1-14 (“the Recovery Plan is the best source for measures and requirements necessary” to avoid jeopardy and adverse modification). Since final recovery plans were not available in 2000, NOAA looked to the provisions of a “Basinwide Salmon Recovery Strategy” or “BSRS” that it had recently developed to assist in its jeopardy analysis. *Id.* at 1-11. NOAA noted, however, that “[s]ince 1995, NMFS has developed the viable salmonid population (VSP) concept as a tool to evaluate whether the species-level requirements of ESUs are being met (McElhany *et al.*).” *Id.* at 1-9. The agency indicated that when complete, this work – not the BSRS – would provide the best scientific basis for evaluating the effects of proposed actions on ESA-listed salmon and steelhead. *See id.* at 1-9 to 1-10 (discussing the VSP approach).

36. Separately, in a white paper it employed in the 2000 FCRPS BiOp that discussed the relationship between survival and recovery in a jeopardy analysis, NOAA concluded that “impeding a species’ progress toward recovery exposes it to additional risk, and so reduces its likelihood of survival. Therefore, in order for an action to not ‘appreciably reduce’ the likelihood of survival, it must not prevent or appreciably delay recovery.” NOAA White Paper “The Habitat Approach” (2000 AR Doc. B.154 at 3) (emphasis added). In other words, risk to both a species’ likelihood of survival and recovery increases the longer its population hovers at levels of abundance, productivity, diversity and/or spatial structure below those necessary to sustain its survival and recovery.

37. Because NOAA determined, under this framework, that continuation of FCRPS operations which had been in place since at least 1995 would jeopardize eight ESUs of ESA-listed salmon and steelhead and destroy or adversely modify their critical habitat, 2000 FCRPS BiOp at 6-1 to 6-146,⁵ it prescribed an RPA, *id.* at 9-181 to 9-287. The RPA consisted of 199 separate measures, many involving FCRPS operations, the Juvenile Fish Transportation Program, certain BOR projects, and further studies and analyses in these areas. *Id.* at 9-53 to 9-132. Others described a complex process for planning, monitoring and evaluation, production of reports, and procedural steps NOAA and the Action Agencies would take that would extend well beyond FCRPS operations. *Id.* at 9-1 to 9-51, 9-161 to 9-180. Still other measures generally described behaviors affecting salmon habitat, hatchery operations, and salmon harvest management for which the Action Agencies have only limited responsibility. *Id.* at 9-133 to 9-141 (habitat discussion), 9-143 to 9-150 (harvest discussion), 9-151 to 9-160 (hatchery discussion).

38. NOAA correctly acknowledged that even the 199 measures of the RPA it proposed would not alone be sufficient to avoid jeopardy and adverse modification for the Snake River ESUs and some Columbia River ESUs. This conclusion, however, compelled the agency to rely on measures unrelated to the FCRPS or the RPA, such as salmon habitat and hatchery mitigation measures by other federal or state agencies and private parties, in order to reach a no-jeopardy/no-adverse modification finding for the RPA. *See, e.g.*, 2000 FCRPS BiOp at 9-283

⁵ Specifically, the 2000 FCRPS BiOp concluded that the proposed actions would jeopardize and adversely modify the critical habitat of Snake River spring/summer chinook, 2000 FCRPS BiOp at 8-3, Snake River fall chinook, *id.* at 8-5, Snake River sockeye, *id.* at 8-25, Snake River steelhead, *id.* at 8-13, Upper Columbia River spring chinook, *id.* at 8-7, Upper Columbia River steelhead, *id.* at 8-15, Mid-Columbia River steelhead, *id.* at 8-17, and Columbia River chum salmon, *id.* at 8-23.

(Snake River spring/summer chinook). In fact, the degree to which the no-jeopardy/no-adverse modification finding for this RPA depended on these unrelated and uncertain actions was remarkable. For the Snake River salmon and steelhead ESUs for which NOAA performed an analysis, substantially more than one-third, and in many cases two-thirds or more, of the survival improvements needed to avoid jeopardy and adverse modification were expected from non-hydrosystem/non-harvest measures, most of which would have been carried out by entities other than the Action Agencies. The same or worse was the case for the Columbia River ESUs. Moreover, the measures of the RPA that did address the FCRPS and its operations provided only a small fraction of the necessary survival improvements needed to avoid jeopardy and adverse modification. In other words, in light of the FCRPS operations and related actions the Action Agencies were willing to undertake, NOAA was not able to articulate an RPA for the FCRPS that avoided jeopardy, as the ESA requires. Instead, it was forced to turn to non-RPA actions that would purportedly benefit the listed species to make up for the reductions in the likelihood of survival and recovery caused by the proposed FCRPS operations, reductions that were quite large.

39. On May 5, 2001, NWF filed its first complaint in this action, challenging the scientific and legal validity of the 2000 FCRPS BiOp. Chief among the defects in the 2000 FCRPS BiOp that NWF identified was its reliance on speculative and uncertain future measures to be carried out by federal, non-federal, and private parties in order to avoid jeopardy. Following an extensive but ultimately unsuccessful mediation effort, NWF filed a motion for summary judgment on its claims. In May of 2003, the Court ruled that the 2000 FCRPS BiOp violated the ESA and its implementing regulations because, in preparing and evaluating the RPA in the opinion, NOAA had improperly relied on off-site, range-wide future federal actions that

had not undergone Section 7 consultation and off-site, range-wide state, private, or tribal actions that were not “reasonably certain to occur.” NWF v. NMFS, 254 F. Supp. 2d 1196, 1211-12 (D. Or. 2003).

40. Plaintiffs subsequently moved the Court to vacate and set aside the 2000 FCRPS BiOp but the Court permitted the federal agencies to continue operating under the opinion’s requirements while NOAA prepared a revised opinion that was to have addressed the specific flaws identified by the Court. Pursuant to an extension of the remand schedule, the Court ordered NOAA to finalize a revised opinion by November 30, 2004. The Court retained oversight of the remand process and required NOAA to submit quarterly status reports on its progress in remedying the legal problems with the 2000 FCRPS BiOp. At the urging of the state and tribal co-managers, NOAA agreed to engage these parties in a “collaborative process” late in the remand period and the parties engaged in a facilitated discussion for some four months before NOAA completed a final revised biological opinion.⁶

41. Despite the Court’s clear direction in its summary judgment ruling, remand orders, and at a number of status conferences, that NOAA and the Action Agencies should focus

⁶ Also during the remand, the Corps and BPA, with approval from NOAA, proposed to eliminate spill at The Dalles and Bonneville dams for the month of August and to eliminate spill at Ice Harbor and John Day dams for the final ten days of August. Eliminating spill at these dams for this period would have eliminated some 39% of the entire spill volume for the summer 2004 salmon migration season. In July of 2004, NWF filed a supplemental complaint for declaratory and injunctive relief alleging violations of the ESA and APA associated with the Corps’ decision to eliminate summer spill, and NOAA’s July 1, 2004, approval of that proposal. With respect to the claims in this supplemental complaint that challenged the elimination of summer spill, the Court concluded that “plaintiffs have prevailed on the merits and have demonstrated that the decisions of the agencies are arbitrary and capricious.” Opinion and Order at 7 (filed July 29, 2004) (Docket #602). The Court therefore granted NWF an injunction requiring the Corps and NOAA to implement the summer spill program set forth in the RPA for the 2000 FCRPS BiOp during the summer of 2004. This marked the first court-ordered injunction to reduce the harm to ESA-listed salmon and steelhead from FCRPS operations. The Ninth Circuit subsequently denied an emergency motion by the federal defendants to stay this injunction.

on correcting the defects in the 2000 FCRPS BiOp which the Court had identified, it became apparent over the course of the remand that NOAA would create an entirely new jeopardy and adverse modification analysis for an updated proposed action which would have little in common with the jeopardy framework of either the 1995 or the 2000 FCRPS BiOps. Instead, under the rubric of “refreshing” its jeopardy analysis, NOAA and the Action Agencies developed a novel approach to consultation on the FCRPS, one based on a re-interpretation of the ESA and its implementing regulations. Contrary to NOAA’s assertions at various points during the remand process, none of these changes actually was required by the Court’s summary judgment ruling on the 2000 FCRPS BiOp.

PROCEEDINGS REGARDING THE 2004 FCRPS BIOP

42. On November 30, 2004, NOAA released its final revised biological opinion for the FCRPS in accordance with the Court’s remand schedule. In dramatic contrast to the 1995 and 2000 FCRPS BiOps, the 2004 FCRPS BiOp concluded that the Action Agencies’ Updated Proposed Action (“UPA”) would not jeopardize any of the ESA-listed salmon and steelhead ESUs affected by the FCRPS, including the eight ESUs for which the agency previously had concluded that FCRPS operations would cause jeopardy. See 2004 FCRPS BiOp at 8-4, Table 8.1.

43. The UPA consisted of selected aspects of the RPA from the 2000 FCRPS BiOp, including specific dam and reservoir requirements, some flow augmentation and limited spill at certain projects during the spring and summer salmon migration seasons, and an aggressive effort to capture and transport juvenile salmon, especially during the summer migration season. Its “mitigation” measures also tracked those of the 2000 RPA, including eventual installation of “removable spillway weirs” and a limited number of habitat restoration projects in upstream

spawning areas and in the estuary below the last FCRPS project.⁷

44. When NOAA considered in the 2000 FCRPS BiOp whether a substantially similar RPA consisting of FCRPS management and operation, as well as other measures, would cause jeopardy, it concluded that, in fact, it would. See, e.g., 2000 FCRPS BiOp at 9-200 to 203 & Table 9.7-6 (estimating survival improvements above those from the RPA needed to avoid jeopardy for Snake River spring/summer chinook). Indeed, as described above, the agency concluded that such an RPA would provide only a small fraction of the population improvement necessary for the ESA-listed salmon and steelhead ESUs to avoid jeopardy. See supra at ¶¶ 37-38 (explaining the large survival improvements hoped for from uncertain and speculative “off-site” mitigation in the 2000 FCRPS BiOp). Rather than acknowledge directly the very limited capability of the proposed minor modifications to the FCRPS and its operations to protect salmon and steelhead from jeopardy, and the correspondingly large and adverse impacts of these actions on the species, in the 2004 FCRPS BiOp NOAA simply re-interpreted the ESA and its implementing regulations in order to redefine the scope and nature of the action and thereby removed from consideration the majority of the adverse effects of the FCRPS and its operations on salmon and steelhead.

45. NWF challenged four elements of NOAA’s new approach in the 2004 FCRPS BiOp. Each of these elements in the opinion was rejected both by this Court and by the Ninth Circuit, see National Wildlife Federation v. National Marine Fisheries Service, 2005 WL

⁷ The UPA considered in the 2004 FCRPS BiOp did not include the BOR’s upper Snake Projects, and the 2004 FCRPS BiOp does not address all of the effects of these projects. Those effects were purportedly addressed in a separate opinion for the Upper Snake projects that was invalidated by this Court on May 23, 2006. See American Rivers v. NOAA Fisheries, 04-CV-00061-RE Opinion and Order (May 23, 2006) (Docket #263); Opinion and Order of Remand (Sept. 26, 2006) (Docket #288).

1278878 (D. Or. May 26, 2005); NWF v. NMFS, 524 F.3d 917 (9th Cir. 2008) (amended opinion), and the Court again remanded the opinion to NOAA and the Action Agencies to prepare a revised opinion that would comply with the law. See Opinion and Order of Remand (Oct. 7, 2005) (Docket #1087).

46. In the 2004 FCRPS BiOp, NOAA first limited its consideration of the “action” for consultation to only a small portion of the Action Agencies’ on-going management and operation of the FCRPS based on the erroneous view that the ESA’s implementing regulations did not allow it to consider actions “beyond the agency’s current discretion or control . . . such as their existence and operations necessary to satisfy Congressionally mandated purposes (e.g., flood control and navigation).” 2004 FCRPS BiOp at 5-1. This Court and the Ninth Circuit rejected this effort to narrowly re-define the scope of the action for consultation. See NWF v. NMFS, 2005 WL 1278878 at *9 (“I hold that NOAA must consult on the entire proposed action if the action agencies have meaningful discretion to operate the DAMS in a manner that complies with the ESA.”); NWF v. NMFS, 524 F.3d at 928 (“neither the ESA nor Home Builders permits agencies to ignore potential jeopardy risks by labeling parts of an action nondiscretionary. We cannot approve NMFS’s interpretation of this rule as excluding from the agency action under review discretionary agency actions taken pursuant to a broad congressional mandate.”).

47. Second, NOAA applied this discretionary action limitation to separate both the effects of the existence of the FCRPS and the “effects of the existing project that are beyond the current discretion of the action agency” (on the one hand) from those operations it viewed as within the discretionary control of the Action Agencies (on the other hand), by using a hypothetical “reference operation” as “an operational surrogate” for the existence and purportedly non-discretionary operations of the FCRPS. 2004 FCRPS BiOp at 1-9, 5-8. The

agency then compared this fictional reference operation to the UPA and asked whether the difference between the effects of the reference operation and the effects of the UPA on ESA-listed salmon and steelhead would cause jeopardy. Based on this manufactured comparison, NOAA was able to determine that the UPA had no “net effect” on any ESU and hence could not cause jeopardy. Compare, e.g., 2004 FCPRS BiOp at 6-68 (predicting “no net change” for Snake River spring/summer chinook) with id. at 8-7 (“no change” means that “the proposed action is not likely to appreciably reduce the likelihood of survival and recovery of the ESU”).

48. NOAA’s comparative, “net effects” analysis, however, was not a jeopardy analysis that followed the ESA-implementing regulations. As both this Court and the Ninth Circuit determined, this comparative analysis never actually considers whether – in light of the current status of the species – the combined effects of a properly defined agency action, together with the effects of the environmental baseline and any cumulative effects, would cause jeopardy. NWF v. NMFS, 2005 WL 1278878 at *13 (“What NOAA has in effect done in the 2004BiOp is compare the proposed action to the share of the proposed action it chose to re-categorize as part of the environmental baseline, rather than properly evaluating the proposed action in its entirety.”); id. at *14 (“Only a comprehensive approach to jeopardy analysis will meet the statutory mandate”); NWF v. NMFS, 524 F.3d at 929 (“Like the district court, we cannot approve NMFS’s insistence that it may conduct the bulk of its jeopardy analysis in a vacuum.”).

49. NOAA in the 2004 FCRPS BiOp also failed entirely to consider the impacts of the UPA on each ESU’s likelihood of recovery. It assumed instead that its survival analysis sufficiently considered the UPA’s impacts on the prospects for recovery. The Court found that NOAA could not rationally ignore this prong of the jeopardy standard. NWF v. NMFS, 2005 WL 1278878 at *17 (“Recovery must be considered separately. The likelihood that recovery and

survival will occur is reduced when the likelihood of either is reduced. In smaller populations, the likelihood of survival is even more dramatically affected by the likelihood of recovery.”) The Ninth Circuit similarly rejected the agency’s approach and held that “NMFS must conduct a full analysis of those risks [to the species’ recovery] and their impacts on the listed species’ continued existence. Although recovery impacts alone may not *often* prompt a jeopardy finding, NMFS’s analytical omission here may not be dismissed as harmless: the highly precarious status of the listed fishes at issue raises a substantial possibility that considering recovery impacts could change the jeopardy analysis.” NWF v. NMFS, 524 F.3d at 933 (emphasis in original).

50. Finally, NOAA in the 2004 FCRPS BiOp also radically altered its approach to determining whether the UPA would destroy or adversely modify critical habitat. Similar to its narrow, comparative approach to determining whether the UPA would jeopardize the species, NOAA attempted to analyze the impacts to critical habitat by comparing the effects of the UPA on critical habitat to either the essential features of that habitat under the fictional reference operation, or to the condition of those essential features at the time the species were listed. Even with this comparative approach, it found that the adverse impacts of the UPA were likely to be severe in the short-term, but reasoned that further degrading already poor conditions of the species’ in-river habitat would be offset by uncertain future improvements (such as RSWs) and that the degraded condition of the habitat could eventually be repaired at some unspecified future date, in other words, the habitat could not lose its potential to function properly some day. See, e.g., 2004 FCRPS BiOp at 8-13 (asserting that that the UPA does not preclude the “future availability of spillways for safer passage” and thus does not appreciably diminish the value of critical habitat for recovery of Snake River fall chinook).

51. Both this Court and the Ninth Circuit found that NOAA failed to consider

whether the proposed action destroys or adversely modifies the essential features of critical habitat that are necessary for the survival and recovery of the species (as opposed to the features that happen to exist at the time the species were listed or that exist today). See NWF v. NMFS, 2005 WL 1278878 at *15-16 (rejecting agency’s conclusions that short-term harm would and could be offset later and holding that regardless, NOAA could not determine impacts to recovery without knowing what in-river survival rate was needed for recovery). The Ninth Circuit affirmed this conclusion and held that NOAA’s critical habitat analysis (1) must “adequately consider the proposed action’s short-term negative effects in the context of the affected species’ life cycles and migration patterns ... [and] (2) [cannot] rel[y] on uncertain long-term improvements to critical habitat to offset certain short-term degradation.” NWF v. NMFS, 524 F.3d at 934; see also id. at 936 (“NMFS inappropriately evaluated recovery impacts without knowing the in-river survival levels necessary to support recovery. It is only logical to require that the agency know roughly at what point survival and recovery will be placed at risk before it may conclude that no harm will result from ‘significant’ impairments to habitat that is already severely degraded.”).⁸

⁸ After this Court’s ruling invalidating the 2004 FCRPS BiOp, NWF sought two injunctions to protect ESA-listed salmon and steelhead during the remand. See NWF v. NMFS, CV-01-640-RE, Opinion and Order (June 10, 2005) (Docket #1015), Opinion and Order (Dec. 29, 2005) (Docket #1221). The Court granted these motions in part and ordered the federal agencies to increase the level of water spilled over several FCRPS projects during the spring and summer months to assist migrating juvenile salmon. The first of these rulings also resulted in an appeal by the federal agencies and a decision by the Ninth Circuit affirming the Court’s first injunction order. NWF v. NMFS, 422 F.3d 782 (9th Cir. 2005). Those injunction decisions have now been twice extended by agreement of the parties for the 2007 and 2008 salmon migration seasons. While not sufficient to avoid jeopardy, this additional spill has been effective in helping to produce some of the highest juvenile survival rates recently recorded. See, e.g., NOAA Fisheries Memorandum (Suzumoto to Ferguson) at 2-4 (Aug. 30, 2006) (chinook and steelhead survival higher than five-year averages likely because of higher flows and spill levels in 2006).

THE 2008 FCRPS BIOP

52. On May 5, 2008, NOAA released its final revised biological opinion for the FCRPS in accordance with the Court's remand schedule as extended. The 2008 FCRPS BiOp runs to more than 1,000 pages and is accompanied by a "Supplemental Comprehensive Analysis" of a similar length (the "SCA"). These and related documents, including a final revised biological opinion for the Bureau of Reclamation projects in the upper Snake River basin, are available at <http://www.nwr.noaa.gov/Salmon-Hydropower/Columbia-Snake-Basin/final-BOs.cfm>. Notwithstanding the extraordinary length of these documents and a relentless effort to convey a sense of complexity in their analysis, the core judgment about whether the 2008 RPA for FCRPS operations avoids jeopardy and destruction or adverse modification of critical habitat for ESA-listed salmon and steelhead is remarkably thin, subjective, biased by a persistent optimism, and ultimately at odds with the best available scientific information as well as the law and this Court's guidance for how to comply with it.

A. The Court's Remand Order and Remand Proceedings Leading to the 2008 FCRPS BiOp

53. On October 7, 2005, the Court entered its Opinion and Order of Remand in this case. Together with the Court's summary judgment ruling, this Order set the terms for preparing the 2008 FCRPS BiOp. The Remand Order began with the Court's observation that it would not

allow another loss of valuable time as occurred during the remand of the 2000 Biological Opinion (2000BiOp). At the outset of that remand, NOAA and the Action Agencies expressed optimism in accomplishing what I had then ordered and they agreed that one year would be adequate. I eventually granted a 6-month extension, over the plaintiffs' objections, urging NOAA and the Action Agencies to accomplish what the remand order required. It became obvious, however, that the political branches were not appropriating or granting the funds needed to do the job. NOAA then abandoned the 2000BiOp and drafted yet another, the fatally flawed 2004 BiOp. The entire remand time was lost and wasted.

Opinion and Order of Remand at 4. Looking forward, the Court noted, with respect to the

remand that produced the 2008 FCRPS BiOp:

If the Executive and Legislative Branches do not allow NOAA to follow the law of the land, NOAA and the Action Agencies will fail again to take the steps that are plainly necessary to do what the ESA requires and what the listed species require in order to survive and recover. We are all aware of the demands of other users on the resources of the Columbia River and Snake River but we need to be far more aware of the needs of the endangered and threatened species.

Id. at 6. These observations led the Court to conclude, “[b]ased on prior history and the experience of the last remand, it is clear that progress can only be made if the agencies understand exactly what is required of them.” Id. at 8. Consequently, the Court directed NOAA and the other federal defendants to:

- (1) Correct its improper segregation of the elements of the proposed action NOAA deems to be nondiscretionary;
- (2) Correct its improper comparison, rather than aggregation, of the effects of the proposed action on the listed salmon and steelhead;
- (3) Correct its flawed determinations as to whether the proposed action destroys or adversely modifies critical habitat;
- (4) Correct its failure to consider the effects of the proposed action on both recovery and survival of the listed species in determining whether the proposed action is likely to jeopardize the continued existence of listed salmon and steelhead; and
- (5) Correct its past reliance on mitigation measures that are not reasonably certain to occur and/or have not undergone Section 7 consultation.

Id. at 11. The Court initially allowed a period of one year to complete a revised biological opinion, id. at 4, but later extended that period more than once, ultimately up to and including May 5, 2008.

54. While the remand began with the federal agencies, states, and tribal intervenors and *amici* agreeing on a “Conceptual Framework for the Remand Process Including the Jeopardy Analysis,” it was apparent from the outset that NOAA and the other federal defendants were less than fully committed to this approach: in their first remand report, these agencies said that the

Conceptual Jeopardy Framework was “only preliminary and subject to change,” that it “contain[ed] potential compromises that may be agreed to if a long-term solution for the operation of the hydrosystem and the sharing of responsibility for non-hydro measures related to habitat, harvest, and hatcheries can be reached,” and that ultimately, “Federal Defendants reserve the right to make those decisions which are committed to their discretion as a matter of law even if the other sovereigns do not agree with those decisions.” First Remand Report at 2 (Docket #1222) (emphasis in original and added).

55. Subsequent remand reports and responses to them highlighted significant on-going concern that the federal agencies were not committed to the conceptual framework for assessing jeopardy or to making the significant changes to FCRPS operations that “the ESA [and] the listed species require in order to survive and recover.” Opinion and Order of Remand at 6. For example, the four Columbia River Treaty Tribes in their response to the federal defendants’ third remand report urged “the Federal defendants to reaffirm their commitment to the ‘Conceptual Jeopardy Framework,’” and “to evaluate a ‘major overhaul’ of the hydrosystem” as opposed to “minor alterations of the status quo.” Treaty Tribes’ Response to Third Remand Report at 2 (Docket #1269). NWF expressed similar concerns. See NWF Response to Third Remand Report at 1-2 (Docket #1268).

56. Notwithstanding these concerns or the terms of the Court’s Remand Order, in September of 2006, NOAA issued a memorandum describing the framework it would employ in its jeopardy and adverse modification analysis in the revised biological opinion. See Exhibit 1 to NWF Response to 4th Remand Report (the “Jeopardy Metric Memo”) (Docket #1289). This memorandum did not follow the Conceptual Jeopardy Framework and it provoked a vigorous expression of concern from the State of Oregon, the Columbia River Treaty Tribes, and NWF.

See, e.g., State of Oregon Response to 4th Remand Report (Docket #1290) at 1 (“NOAA recently issued [a memorandum that] represents a substantial and troubling deviation from [the] original [jeopardy] framework. That new approach is clearly deficient in several particulars”) (also explaining deficiencies); Treaty Tribes’ Response to 4th Remand Report (Docket #1291) at 2 (the approach of the memorandum “marks a continuing retreat from the [Conceptual Jeopardy] Framework”, expressing concern that “NOAA is once again shifting the jeopardy goalposts”, and observing that “NOAA continues to approach the problem from the view of what appears to be tolerable for the customers of the Bonneville Power Administration”); NWF Response to 4th Remand Report (Docket #1289) at 1-2 (same).

57. The Court too posed questions to the parties about whether NOAA’s new approach was consistent with its Remand Order and the law. In a letter of October 25, 2006, the Court asked: “(1) Are Federal Defendants still committed to the collaborative process developed with the sovereign parties, and described in the Conceptual Framework and the First Remand Status Report? (2) If so, how does the ‘trending towards recovery’ standard fit into the ten-step approach described in Federal Defendants’ First Remand Status Report? [and] (3) What does ‘trending towards recovery’ mean?” Letter from Hon. James A. Redden at 2 (Oct. 25, 2006). Counsel for the Federal Defendants reassured the Court and the parties that the federal agencies were still committed to the remand process, the Conceptual Framework, and to compliance with the law. See NWF v. NMFS, Transcript 4th Remand Status Conference at 10 (Oct. 27, 2006) (assuring the Court and the parties that “the conceptual framework is a very important framework. We’re committed to that framework, we’re committed to working within that framework, and it’s going to play a very important part of the biological opinion and the analysis contained in that opinion.”).

58. Some months later, the Federal Defendants released a draft of their “Updated Proposed Action/Reasonable and Prudent Alternative” which made it apparent that FCRPS operations would remain little changed from those proposed in the 2000 BiOp’s RPA or the 2004 BiOp’s Updated Proposed Action. Once again, Oregon, the Treaty Tribes, and NWF all voiced serious concerns about both the adequacy of the actions the agencies had proposed and the underlying approach to a jeopardy analysis these actions reflected. See Oregon Response to 6th Remand Report (Docket #1358) at 2 (“The federal defendants have taken a different approach and have submitted a draft proposed action that departs little from the status quo and imperils the federal obligation to protect threatened and endangered species”); Treaty Tribes Response to 6th Remand Report (Docket #1355) at 2 (“The Draft Federal Proposed Action (Draft PA) proposes little in terms of significant new action to avoid jeopardy” and explaining in some detail the basis for this conclusion); NWF Response to 6th Remand Report (Docket #1356) at 1-3 (same). The Court also again posed a number of questions to the parties about the direction of the remand. Memorandum of June 18, 2007 from Hon. James A. Redden at 1-3.

59. Notwithstanding this record of objections from the parties that had successfully challenged both the 2000 and 2004 FCRPS BiOps, the Federal Defendants did not “begin to fully discuss and disclose the substance of their deliberations” as the Court suggested. See Memorandum of June 18, 2007 at 3. Instead, on October 31, 2007, NOAA released its draft of the 2008 FCRPS BiOp. The actions considered in the draft opinion were changed little from those in the earlier draft 2007 PA/RPA. Equally significant, the draft opinion confirmed that the jeopardy analysis in the revised opinion would follow the terms of the September 2006 Jeopardy Metric Memo exclusively. The State of Oregon, among others, objected strenuously to the draft stating “[t]he draft product of this remand, however, is not guided by science. Instead it

manipulates science to justify policy objectives that subordinate the needs of protected fish.” Oregon’s Issues for December 12, 2007 Status Conference at 2 (Docket #1398) (filed Nov. 30, 2007). The Treaty Tribes and NWF were likewise direct in expressing their concerns. See Treaty Tribes Issues for Status Conference (Docket #1391) at 2-3; NWF Issues for Status Conference (Docket #1395) at 1-2, 4.

60. On December 7, 2007, the Court once more wrote to the parties and – while it commended the Federal Defendants “for their effort in assembling and analyzing a massive amount of technical and scientific information” – it also posed a number of questions about the draft BiOp:

Is the “likely to trend towards recovery” standard consistent with the requirements of the ESA, its implementing regulations, and the relevant case law? Is it based on the best available science?

.....

It appears that the Federal Defendants have abandoned the Conceptual Framework they committed to during the early phases of the remand. Are you now relying on the jeopardy/metrics analysis? Do Federal Defendants believe that the recovery prong of the jeopardy analysis will be satisfied if the species is “likely to trend towards recovery” within a reasonable time? Does this standard comply with the ESA’s “best available science” and recovery standards?

Memorandum of December 7, 2007 from Hon. James A. Redden at 1-3. The Court also noted that “[t]he draft BiOps appear to rely heavily on various hydro, habitat, and hatchery mitigation actions that are not reasonably certain to occur and/or not certain to benefit listed species within a reasonable time.” Id. at 2.

61. The final revised 2008 FCRPS BiOp that NOAA released on May 5, 2008 did not change in any material way from the draft opinion released in October of 2007. The jeopardy and critical habitat analyses in the opinion are based entirely on the approach outlined in the Jeopardy Metric Memo of September 2006. See 2008 FCRPS BiOp at 1-6 (stating that NMFS

“presented its preliminary thoughts on the legal framework for the jeopardy analysis in two memoranda from D. Robert Lohn . . . dated July 12 and September 11, 2006.”). The Prospective Actions that form the 2008 RPA are essentially the same actions proposed in 2000, again in 2004, and again in the draft 2008 FCRPS BiOp with only minor modifications. Indeed in several instances, these actions propose a retreat from the measures the Court has ordered the Action Agencies to implement through its injunction rulings. See infra at ¶¶ 66-76.

62. This is not the path forward laid out in the ESA and its implementing regulations, prior decisions in this and other cases, the Court’s careful guidance for the remand, or the best available scientific information. It is instead the very “dysfunction of government” that the Court warned was “not a rational option.” Opinion and Order of Remand at 7.

B. The 2008 FCRPS BiOp Is Contrary to Law, Arbitrary and Capricious.

63. The 2008 FCRPS BiOp is structured to create the appearance of returning to the approach and analysis in the 2000 FCRPS BiOp rather than the discredited approach of the 2004 FCRPS BiOp. Consequently, it begins by accepting the conclusion in the 2000 opinion that the proposed action from 1999 would cause jeopardy, 2008 FCRPS BiOp at 1-6 to 1-7, and then proceeds to consider a reasonable and prudent alternative to that action, id. at 1-7, ultimately composed of what is designated the “Prospective Actions” (the “2008 PA/RPA”), id. at 1-8 to 1-10. While NOAA does not make the details of the relationship between these Prospective Actions and the measures of the 2000 RPA and 2004 Up-dated Proposed Action (“UPA”) clear, a comparison of the 2000 RPA/2004 UPA with the 2008 PA/RPA shows that the changes in hydrosystem operations, habitat actions to benefit ESA-listed species, and hatchery actions between the 2000 RPA/2004 UPA and the 2008 PA/RPA are minor.

64. Because the actions in the 2008 PA/RPA are so substantially similar to the actions in 2004 and 2000, a central challenge in preparing the 2008 FCRPS BiOp appears to have been

developing a jeopardy and adverse modification analysis that would reach a no-jeopardy finding for these actions as NOAA did in 2004 rather than reaching a jeopardy finding for them as the agency did in 2000. More than any other factor, such a need would account for NOAA's abandonment of the Conceptual Jeopardy Framework and its development of and reliance on the Jeopardy Metric Memo from September of 2006 and the analytic steps that implement it. Indeed, the 2008 FCRPS BiOp and SCA make it very clear that the jeopardy analysis for the 2008 PA/RPA is based entirely on the Jeopardy Metric Memo including a series of vague qualitative considerations. 2008 FCRPS BiOp at 1-6 (citing the Jeopardy Metric Memo and an earlier memorandum from July of 2006); see also Jeopardy Metric Memo at 3-4. The Conceptual Jeopardy Framework plays no role. It is only referenced as providing some additional information in an appendix to the SCA, and even then it is misemployed. See SCA, Aggregate Analysis Appendix at 1-2, 4 (describing "Framework Gap" and reporting it in, for example, Table 1).

65. The work of the ICTRT, a multi-year scientific effort to apply the VSP concepts to ESA-listed salmon and steelhead ESUs in the interior Columbia basin that NOAA described in the 2000 FCRPS BiOp as the standard it expected to inform and guide evaluation of the effects of proposed actions on species in the future, see supra at ¶ 35 (quoting 2000 FCRPS BiOp at 1-9 to 1-10), and that formed the basis for the Conceptual Jeopardy Framework, see Federal Defendants' 1st Remand Report, Ex. 3 at 2, 6 (explaining role of viability criteria in foundational steps of Conceptual Jeopardy Framework and in assessing impacts to survival and recovery), is employed at most to help describe the current status of salmon populations. It plays no role in the analysis of the effects of the 2008 PA/RPA on the species' likelihood of survival or recovery and NOAA makes no effort to use or adapt the ICTRT's work for such an analysis even though it

is the best available scientific information. It simply dismisses the ICTRT's work and its calculation of population survival gaps as relevant only to recovery planning and the eventual attainment of recovery. See 2008 FCRPS BiOp at 7-7 (the jeopardy "analysis is directed at a different question than the ICTRT's analysis of long-term recovery").

1. The 2008 PA/RPA Is Not Materially Different From the 2000 RPA or the 2004 UPA.

66. The Prospective Actions, which form the RPA for the 2008 FCRPS BiOp, are either largely the same as – or in some cases, represent a retreat from – almost every major area of hydrosystem actions proposed in the 2000 and 2004 FCRPS BiOps. In fact, except where they have been reduced, these measures have largely been in place since adoption of the RPA in the 1995 FCRPS BiOp. Nearly eight years ago in the 2000 FCRPS BiOp, NOAA conceded that these measures were insufficient to avoid jeopardy to eight of the listed ESUs of Columbia and Snake River salmon and steelhead. See supra at ¶¶ 34-38 (describing jeopardy analysis and findings of the 2000 FCRPS BiOp).

67. For example, the 2008 PA/RPA largely continues the spring spill and transportation regime that has been in place since 1995, compare 2008 FCRPS BiOp, Table of Actions at 5 (RPA #30, Table 3) with 2000 FCRPS BiOp at 9-75 to 9-76 (RPA #40-41), even though it has been apparent for nearly a decade that these measures are insufficient to avoid jeopardy. While several aspects of the spill program have changed, the only significant modification to these measures is to reduce spring spill and maximize transportation between May 7 and May 20 each year, even in high flow years, compare 2008 FCRPS BiOp, Table of Actions at 32-33 (RPA #29, Table 2); id. at 35, Table 3 with NMF v. NMFS, CV-01-640-RE Docket #1303 (Treaty Tribes' Response to Scheduling Order at Attachment 1, pages 9-10 (Jan. 9, 2007) (2007 spill table)). See also Fish Passage Center Memorandum Re: Recent

Attempts to Improve Mainstem Migration Conditions for In-river Migrating Salmonids (April 21, 2008) (comparing current operations under Court’s injunctions to those of past 15 years). The Court rejected a similar proposal to eliminate spring spill in 2005. NWF v. NMFS, CV-01-640-RE, Opinion and Order at 9 (Dec. 29, 2005) (Docket #1221) (rejecting Corps’ proposal to eliminate spring spill from April 20th through May 30th). In the summer, the 2008 PA/RPA now also permits the action agencies to terminate spill in the Snake River before August 31st, see 2008 FCRPS BiOp, Table of Actions at 33, nn.5, 6, another step the Court refused to allow NOAA and the Action Agencies to take in 2004. NWF v. NMFS, CV-01-640-RE, Opinion and Order (July 29, 2004) (Docket #602).

68. Similarly, since 1995 NOAA has set flow targets for the Snake and Columbia Rivers. See SCA at 5-15, Table 5.1-2 (mentioning flow objectives set in 1995 BiOp). Even though these targets often are not met, even on a seasonal average basis, especially in the Snake River in the summer, NOAA has said that they are the “... low estimate of the flow that is likely to avoid high mortality” to out-migrating juvenile salmon and steelhead. See 1995 FCRPS BiOp, Attachment 1 Basis for Flow Objectives for Operation of the Federal Columbia River Power System. Rather than proposing a set of specific operations to ensure these targets are met in the 2008 PA/RPA, NOAA has substituted a set of reservoir operation requirements that do nothing to change the action agencies’ prior record of flow management. See, e.g., 2008 FCRPS BiOp, Table of Actions at 3-7 (RPA #4).

69. Likewise, the measures that NOAA finds have the potential to increase flows are simply the same plans for further study and negotiation that have been part of prior opinions. For example, the 2000 and the 2004 FCRPS BiOps both included some version of a “commitment” by the Action Agencies (particularly BPA) to secure release of additional treaty

and non-treaty storage (“NTS”) water from Canadian reservoirs for flow augmentation in the mainstem Columbia River. See, e.g., 2000 FCRPS BiOp at 9-67 (RPA Action #24, 25); 2004 FCRPS BiOp, Updated Proposed Action at 48 (ongoing promise to negotiate with Canada for additional water). That additional water has never been secured. The 2008 PA/RPA merely continues the same empty promise. See 2008 FCRPS BiOp, Table of Actions at 11 (RPA #10) (“BPA and the Corps will pursue negotiations” for Canadian water); id. at 13 (RPA #12) (“BPA will seek to negotiate” long-term NTS agreements).

70. Nor does the 2008 FCRPS BiOp include any measures to secure additional flows for the Snake River from the upper Snake River or elsewhere, continuing instead to rely on the delivery of 427-487 kaf of flow augmentation from these BOR projects and some water releases from Brownlee Reservoir, water that has been promised but frequently not delivered (or not delivered in a timeframe that is not useful for migrating salmon) under past BiOps. Compare 2004 FCRPS BiOp UPA at 47 (limited flow augmentation from the BOR’s upper Snake projects) with SCA at 8.2-17 (discussing flows from BOR’s upper Snake projects as “provid[ing] benefits through 2034”).

71. The primary mitigation action in the river for the effects of these dams operations continues to be a schedule for installing removable spillway weirs (“RSWs”) at various dams, actions that were included in both the 2000 and 2004 FCRPS BiOps.⁹ See 2000 FCRPS BiOp at 9-85 (directing investigation of RSW at McNary dam); id. at 9-86 and 9-87 (directing investigation of RSWs at Lower Monumental and Little Goose Dams). In the 2004 FCRPS

⁹ The primary benefit of RSWs is to achieve roughly the same passage survival as traditional spill while allowing more water to flow through the turbines for power production. Thus, RSWs, as conceived in the 2008 FCRPS BiOp, are primarily devices to help reduce the power impacts of spill; they provide little if any additional net benefit to salmon over traditional spill.

BiOp, NMFS relied on the “installation and operation of RSWs at Little Goose, Lower Monumental, [and] McNary dams,” in its analysis. 2004 FCRPS BiOp at 6-61. The 2008 PA/RPA promises to install these same structures at these same projects yet again. See 2008 FCRPS BiOp, Table of Actions at 224-27 (RPA #s 21, 23, 24) (promising to install an RSW at Lower Monumental Dam in 2008 (RPA #23); install a “surface spillway weir” at Little Goose Dam (RPA #24); continue a “surface flow outlet” test at McNary Dam with a temporary weir through 2008). As their inclusion in the 2008 FCRPS BiOp demonstrates, past promises to install a “surface spillway weir” at Little Goose dam and complete evaluations of the effectiveness of existing structures at other dams have gone unfulfilled.¹⁰

72. Even outside the context of hydrosystem actions, the 2008 FCRPS BiOp continues to rely primarily on the same measures identified in 2000 and 2004 to address habitat and hatcheries.¹¹ For example, in the 2000 FCRPS BiOp, NOAA identified the need to develop and implement hatchery reforms through Hatchery and Genetic Management Plans (“HGMPs”). 2000 FCRPS BiOp at 9-156 (“The development of NMFS-approved HGMPs is a substantial task that must be completed before many actual reforms can be implemented.”); id. at 9-156 to 9-158 (RPA Actions 169-174) (requiring Action Agencies to fund HGMPs and immediately implement reforms identified). The 2004 FCRPS BiOp merely restated this same goal. See 2004 UPA at 29, Hatchery Substrategy 2.1 (“Hatchery operations and hatchery-origin fish may have negative

¹⁰ The Ninth Circuit rejected NOAA’s reliance on these unfulfilled future measures in the 2004 FCRPS BiOp because the “agencies lack the power to guarantee the improvements in question.” NWF v. NMFS, 524 F.3d at 936 & n.17. The 2008 FCRPS BiOp does not explain how NOAA has eliminated this uncertainty. Moreover, where these structures are installed (especially temporary or prototype systems), their effectiveness has to be evaluated at each project before they can be relied upon in a long-term operational mode as a mitigation measure.

¹¹ Harvest is evaluated in a separate biological opinion and plays only a minor role in the jeopardy analysis for FCRPS operations in the 2008 FCRPS BiOp.

impacts on listed stocks of salmon and steelhead. The HGMP development process will allow us to determine qualitatively whether a hatchery or facility can contribute to recovery of a listed species through the modification of existing practices or facilities”).

73. The 2008 FCRPS BiOp continues to rely on the same, and as-yet-uncompleted, HGMP process to “Reform FCRPS Hatchery Operations,” see 2008 FCRP BiOp at 53-54 (RPA #39) (projecting completed HGMPs and Section 7 consultation on HGMPs for several groups of ESUs by August 2010), even though these future federal actions have not been subject to ESA consultation, see, e.g., id. at 8.2-22 (acknowledging the need to complete consultation on these actions). Indeed, NOAA appears to rely on these future consultations for hatchery actions to dismiss the risks to long-term salmon and steelhead recovery from hatcheries while at the same time crediting hatchery action for reducing short-term extinction risks. See, e.g., id. at 8.2-29. Because the no-jeopardy findings in the 2008 FCRPS BiOp for some ESUs/DPSs rely at least qualitatively on these future federal actions that have yet to go through ESA consultation, NOAA is repeating the error it made in the 2000 FCRPS BiOp. See supra at ¶ 39.

74. NOAA’s approach to habitat actions also has changed little since the 2000 FCRPS BiOp where the agency relied on unspecified benefits from unspecified habitat improvement projects in its no-jeopardy findings. In developing the 2000 FCRPS BiOp, NOAA officials admitted that “[e]ven if we did know where [habitat actions would occur] and how much, we’d be hard pressed to quantify the benefits in terms of fish survival. We might be able to cobble together some guesses (pretty wild ones), but not in the time available The danger is that such a display might just highlight how uncertain we are about the benefits we can expect from off-site mitigation.” 2000 AR C.3320 at 2. While the discussion in the 2008 FCRPS BiOp of habitat actions and their analysis is lengthier, the evaluation of survival benefits from the habitat

actions identified does little to address this problem. The agency’s evaluation of habitat benefits is based on a novel, untested, and unreviewed method of calculating survival benefits from habitat actions. See Comprehensive Analysis, Appendix C, Attachment C-1 at C-1-1 and Annexes 1 and 2; SCA at 7-43 to 7-46 (summarizing and adopting methods).

75. Although the new opinion contains some more specific detail for near-term actions in tributary habitat (those to be implemented through 2009) and an increased level of funding for these, the 2008 FCRPS BiOp does not identify specific habitat actions for 2010 – 2018. Compare 2008 FCRPS BiOp, Table of Actions at 40 (RPA #34) with id. at 41-43 (RPA #35). Instead, NOAA and the Action Agencies set long-term goals and promise future funding levels for habitat improvements and assume that the Action Agencies will develop a process to “implement specific habitat projects to achieve the specified habitat quality improvements.” 2008 FCRPS BiOp, Table of Actions at 41; see also id. at 44-46 (listing habitat improvement goals). Any reliance on such unspecified habitat measures beyond 2009 resembles the failed approach in the 2000 FCRPS BiOp where NOAA sought to qualitatively rely on benefits from actions it did not define. See 2000 FCRPS BiOp at 9-149 to 9-141 (RPA Actions 133-163) (emphasizing studies and planning rather than specific actions).¹²

¹² While NOAA professes not to rely quantitatively on benefits from habitat actions after 2009, it does appear to take them into account qualitatively at several stages of its analysis, although it avoids explaining the weight it assigns to these benefits. See, e.g., SCA at 7-45 (explaining that even though actions from 2010-2018 have not been identified, NOAA “recognizes that there will be qualitative improvements that accrue for some populations beyond 2018 even though the actual benefit cannot be quantified at this time. . . . In NOAA Fisheries’ analysis it is assumed that for the duration of the Biological Opinion the Action Agencies will continue to implement a mixture of actions which will result in short and long-term accrual of survival benefits to those populations.”); SCA at 8.5-18 6-3 (listing actions – including habitat actions – “that will significantly improve conditions for Snake River steelhead” and concluding that “[t]hese effects can only be considered qualitatively, however.”). See infra at ¶ 82 (final bullet point) (explaining that NOAA’s qualitative analysis is arbitrary, lacks transparency, and fails to consider all relevant factors and evidence).

76. Moreover, NOAA's approach to habitat in the 2008 FCRPS BiOp continues the failure of the 2000 and 2004 FCRPS BiOps to consider anything other than beneficial habitat actions in the action area. Compare *infra* at ¶¶ 90-93 (describing NOAA's failure to properly define the action area and its consideration of only beneficial actions in its cumulative effects analysis) with 2004 FCRPS BiOp at 7-2, 7-4 (NOAA's assumptions that state and private activities that "have occurred in the past, and have limited survival and productivity of the listed ESUs are not necessarily going to occur in the future" and that conditions in the Columbia River Basin will improve toward a "more pristine condition over time").

2. *The Jeopardy Analysis in the 2008 FCRPS BiOp Is Contrary to Law, Fails to Employ the Best Available Scientific Information, and Is Arbitrary and Capricious.*

77. In broad terms, the form of the jeopardy analysis NOAA has created for the 2008 FCRPS BiOp is fairly straightforward. First the agency gives a general description of the current status of the various populations of ESA-listed salmon and steelhead that form the distinct ESUs/DPSs. See, e.g., 2008 FCRPS BiOp at 7-4, 7-6 to 7-10 (explaining methods). NOAA, however, replaces the ICTRT viability standards with the Jeopardy Metric Memo's three "trending towards recovery" metrics, for the recovery prong of the jeopardy analysis, and its "short-term (24-year) extinction" metric, for the survival prong of the analysis. See 2008 FCRPS BiOp at 1-6, 7-7 to 7-12 (discussing analytic approach). Each of the "trending towards recovery" metrics requires a population growth rate at or above 1.0, or at or above 1:1 replacement of each adult member of the current population with a new adult on a continuing basis. Id. at 7-20 to 7-29 (describing metrics and methods). The "short-term extinction" metric from the Metric Memo requires a less than 5% risk of falling below some minimum abundance threshold within the next 24 years, with thresholds ranging between 50 fish and one fish. Id. at 7-14 to 7-20.

78. The effect of this change in standards is to dramatically reduce the survival “gaps” in the jeopardy analysis for most, if not all, populations from the survival gaps the ICTRT calculated. See 2008 FCRPS BiOp at 7-7 (noting the shift in application of the term “survival gap” from the ICTRT analysis to the jeopardy analysis and acknowledging that the change has the effect of making the gaps smaller).¹³ In fact for many populations/metrics, NOAA found that no further survival increase from the “baseline” was required because the status of the populations at the baseline stage already met the standards described in the Jeopardy Metric Memo. In other words, by using a different analysis, different metrics, and different standards than the ICTRT, NOAA consistently, and in many cases substantially, shrinks the magnitude of the problem it faces by simply reducing the magnitude of survival improvement needed for each population to “avoid jeopardy.”

79. Next, NOAA adjusts this base-period survival rate for each population to account for “changes made to activities affecting the listed fish, such as operations at the dams, since the base period empirical data was gathered.” 2008 FCRPS BiOp at 7-4. It does this by calculating “adjustment factors . . . for all ongoing and completed management activities that are likely to continue into the future,” or by using a more recent base period, and then deriving adjusted – and improved – survival rates for those populations and ESUs where it can make such calculations. Id. at 7-11; see also id. at 8.3-9 to 8.3-10 (stating for Snake River spring/summer Chinook that

¹³ Compare e.g., 2008 FCRPS BiOp at 8.6-7 (survival gaps for the base period, which is generally comparable to the ICTRT current status analysis, for Upper Columbia Chinook using Jeopardy Metric Memo Metrics range from 0 to a high of 69%) with ICTRT, Survival Rate Change Memo at 22 (survival gaps for these populations using ICTRT standards range from a low of 89% (with error buffering) to a high of 175%); compare also 2008 FCRPS BiOp at 8.2-8 (survival gaps for the base period for Snake River Fall Chinook range from 0% to 34%, but for the adjusted base period are 0% for all metrics) with ICTRT, Survival Rate Change Memo at 26 (survival gaps for this ESU for the base period range from 27% to 38% and for a comparable adjusted period from 20% to 41% (with error buffering)).

“[b]ecause a number of ongoing human activities have changed over the last 20 years, [NOAA] . . . includes estimates of a ‘base-to-current’ survival multiplier, which adjusts productivity and extinction risk under the assumption that current human activities will continue into the future” and results in 21-68% survival increases over the base-period). For many of the remaining populations/metrics where survival increases from the baseline are needed to meet the Jeopardy Metric Memo metrics, this “base-to-current” adjustment increases the calculated survival rate for a population enough so that no further survival increases are required.¹⁴

80. The final quantitative step, for those populations where NOAA undertakes a quantitative analysis, is to calculate the increase in survival rates that the agency predicts will accrue from the “Prospective Actions” of the 2008 PA/RPA in order to determine whether these increases will produce predicted survival rates sufficient to “fill” the survival gap NOAA has created between the re-calculated current survival rates and the rates necessary to meet the recovery and survival metrics from the Jeopardy Metric Memo. See 2008 FCRPS BiOp at 7-38 (describing for hydro actions the analytic steps of calculating a “Base to Current adjustment” and Current to Prospective adjustment); see generally id. at 7-37 to 7-49 (describing methods). Not surprisingly, given the extent to which NOAA’s jeopardy framework and analysis has first lowered the ceiling and then raised the floor, for virtually all populations of listed ESUs/DPSs

¹⁴ For example, for Upper Columbia chinook, the survival gap for the Wenatchee population in the 2008 FCRPS BiOp analysis, after the base-to-current adjustment and using the Jeopardy Metric Memo metrics as the opinion does, ranges from 0% (for the R/S metric) to 14% (for the BRT metric) at the upper end of the base-to-current adjustment, to 4.5% to 32% (for these same metrics) at the lower end of the base-to-current adjustment. For the Methow population, the survival gap ranges from 0% for all metrics at the upper end of the base-to-current adjustment to about 5% for each metric at the lower end of the base-to-current adjustment. See 2008 FCRPS BiOp at 8.6-9 (providing base-to-current adjustment factors), 8.6-37 (Table 8.6.2-4) (providing survival gaps for the “trending towards recovery” metrics for base period survival). The 2008 FCRPS BiOp does not actually provide a table showing the alleged survival gaps after the base-to-current adjustment for this ESU.

and all metrics where NOAA undertakes a quantitative analysis, the 2008 PA/RPA is represented as being at least sufficient to fill the few remaining gaps required to meet the Jeopardy Metric Memo metrics and hence meet the quantitative requirements of the new analysis for avoiding jeopardy. See, e.g., id. at 8.3-40 to 8.3-41 (explaining that for the Snake River spring/summer chinook ESU as a whole, all trending-towards-recovery metrics are met), 8.6-28 (similar conclusions for Upper Columbia River Chinook). Nonetheless, for each Snake River and Upper Columbia River ESU (the jeopardy ESUs/DPSs under the proposed action from the 2000 BiOp), NOAA also offers a series of “qualitative considerations” that it asserts increase its confidence that the 2008 PA/RPA will avoid jeopardy. See, e.g., id. 8.3-39 to 8.3-40 (concluding “[i]n sum, these qualitative considerations suggest that the SR spring/summer Chinook ESU will be trending towards recovery when aggregate factors are considered”), 8.6-27 to 8.6-28 (similar discussion for Upper Columbia Chinook with identical conclusion). Both the quantitative analyses and the qualitative considerations are then summarized in formulaic statements for each ESU which say:

Taken together, the combination of all the qualitative and quantitative factors indicates that the [Snake River Spring/Summer Chinook ESU] as a whole is likely to trend towards recovery when the environmental baseline and cumulative effects are considered along with implementation of the Prospective Actions. The status of the species has been improving in recent years, compared to the base condition, and abundance is expected to increase in the future as a result of additional improvements.

...

Taken together, the combination of all the factors above indicates that the [Snake River Spring/Summer Chinook ESU] as a whole is likely to have a low risk of short-term extinction when the environmental baseline and cumulative effects are considered along with implementation of the Prospective Actions. The status of the species has been improving in recent years, compared to the base condition, and abundance is expected to increase in the future as a result of additional improvements.

See, e.g., 2008 FCRPS BiOp at 8.3-42, 8.3-45. Similar concluding statements regarding

recovery and survival appear for the other ESUs that were jeopardized by the 1999 proposed action.

81. As Oregon, the Columbia River Treaty Tribes, and NWF all pointed out repeatedly during the remand following the appearance of the Jeopardy Metric Memo in September of 2006, and following release of the draft biological opinion in October of 2007, there are a host of fundamental legal, analytic, and scientific shortcomings of this newly-invented approach to a jeopardy analysis.

82. For example, the agency's new jeopardy analysis does not follow the requirements of the ESA regulations that govern the preparation of a biological opinion. See 50 C.F.R. §§ 402.02; 402.14. Specifically, the new analysis fails to evaluate properly whether the 2008 PA/RPA will appreciably reduce the species' likelihood of survival and recovery for reasons including, but not limited to, the following:

- The “trending towards recovery” standard for the recovery prong of the jeopardy analysis fails to address elements of a jeopardy analysis that the regulations identify as necessary and that are scientifically essential to determining whether an action appreciably reduces a species' likelihood of recovery. In fact, the phrase “trending towards recovery” does not appear in the jeopardy regulation at all but is lifted out of context from a discussion in the Court's decision in American Rivers v. NOAA Fisheries, 04-CV-00061-RE Opinion and Order on Summary Judgment (May 23, 2006) (Docket #263) at 10-11, 24 (quoting TVA v. Hill, 437 U.S. 153, 184-85 (1978) (discussing the broad purposes of the ESA)). Neither this Court nor the Supreme Court – nor the agency up to now – has suggested that this phrase is an appropriate substitute for any part of the jeopardy standard set out in the regulations. Moreover, the “trending towards recovery” standard is sharply at odds with, for example, the components of the recovery prong of the jeopardy analysis in the 2000 FCRPS BiOp – yet there is no explanation for why these components are no longer legally or scientifically relevant. The 2000 FCRPS BiOp recovery prong of the jeopardy standard set (a) the probability of achieving recovery that was necessary in order to avoid appreciably reducing the likelihood of recovery, (b) a time frame for reaching recovery, and (c) a definition of what would constitute a recovered ESU. See supra at ¶¶ 34-36 (describing analytic framework for the 2000 FCRPS BiOp). Each of these elements is required by the express language of the jeopardy regulations. The first sets the probability necessary to avoid an “appreciable” reduction in the likelihood of recovery, the second identifies the time in which recovery must be achieved, and the third describes what population level constitutes recovery. See 50 C.F.R. § 402.02; see also NWF v.

NMFS, 524 F.3d at 936 (“NMFS inappropriately evaluated recovery impacts without knowing the in-river survival levels necessary to support recovery. It is only logical to require that the agency know roughly at what point survival and recovery will be placed at risk before it may conclude that no harm will result from ‘significant’ impairments to habitat that is already severely degraded.”). While NWF took issue with the adequacy of each of these elements of the recovery prong of the jeopardy analysis in the 2000 FCRPS BiOp, in the 2008 FCRPS BiOp, each of these elements is missing entirely from the new “trending towards recovery” standard.

- Likewise, the short-term extinction risk standard NOAA uses to assess whether the 2008 PA/RPA will cause an appreciable reduction in a species’ likelihood of survival is contrary to law, disregards the best available scientific information, and is arbitrary. The quantitative survival standard in the Jeopardy Metric Memo and the 2008 FCRPS BiOp focuses on the risk of extinction for salmon and steelhead populations over the next 24 years, although NOAA now also asserts that it has not identified, and does not rely on, a quantitative standard to assess risks to species survival but only presents the results of the short-term extinction risk analysis from the SCA “for convenience.” 2008 FCRPS BiOp at 7-7 to 7-8. If NMFS does not rely on this quantitative standard for assessing risk to species survival, it has not described rationally what it does rely on or what the relevance of its quantitative analysis is to its conclusion for each ESU that the 2008 PA/RPA avoids jeopardy to species survival. To the extent NOAA does rely on this quantitative analysis, its decision to do so is arbitrary and contrary to the best available scientific evidence including, but not limited to, the agency’s own evidence that the extinction risk calculations in the SCA produce estimates of risk that are not reliable and that are at odds with the extinction risk methods employed, and conclusions reached, by other qualified scientists, including the ICTRT. To the extent NOAA’s conclusions rest on the various qualitative factors it discusses at different points as relevant to survival risk, it has not explained how these survival factors add up to a rational finding. Moreover, many of these factors are either meaningless, actually indicate heightened risk to survival, or cannot support the conclusion that the actions avoid jeopardy.
- Finally, the narrative no-jeopardy findings for each ESU/DPS in the 2008 FCRPS BiOp appear to be based on both quantitative and qualitative assessments that fail to actually articulate how the various factors discussed can be combined in a rational or logical way to support a no-jeopardy conclusion. See, e.g., 2008 FCRPS BiOp at 8.2-26 to 8.2-28 (no-jeopardy findings for Snake River Fall Chinook) (similar findings are provided for each of the other ESUs/DPSs). In addition, many of the factors discussed are neither fully nor accurately described, nor does the agency explain why its discussion omits other factors that also would be relevant to a jeopardy analysis. For example, for Snake River Fall Chinook, NOAA discusses how hatcheries provide a qualitative basis for finding that the short-term extinction risk for this ESU is sufficiently low to avoid jeopardy but the discussion does not identify what hatchery actions the agency is considering, whether all of those actions, to the extent they are authorized, funded or carried out by a federal agency, have completed consultation, or how such actions affect the recovery risks the ESU faces (other than to note that the effects may be adverse and will be monitored). See 2008 FCRPS BiOp at 8.2-29 to 8.2-30.

83. The jeopardy analysis in the 2008 FCRPS BiOp also is arbitrary and capricious, contrary to law, and fails to use the best available scientific information for reasons that include, but are not limited to, the following:

- The jeopardy analysis fails to rationally address the effects of global warming in combination with the 2008 PA/RPA on the likelihood of ESA-listed salmon and steelhead survival and recovery. While the 2008 FCRPS BiOp includes a brief discussion of global warming, see, e.g., 2008 FCRPS BiOp at 7-12 to 7-14 (role in analytic methods), 8-17 to 8-18 (general considerations), and 8.2-27 (discussion for Snake River Fall Chinook) (with similar discussions for other ESUs in similar sections), it fails to actually address rationally or on the basis of the best available scientific information the effects of warming on the future of these species. First, like the draft opinion, the final analysis assumes that the effects of climate change on ocean conditions is adequately represented by base period conditions, see 2008 FCRPS BiOp at 7-12 to 7-14, even though independent scientists have criticized this approach when employed by others and have also criticized as inadequate to rationally capture the likely effects of climate change a slightly more pessimistic set of assumptions about ocean conditions that NOAA includes in an appendix to the 2008 FCRPS BiOp (but does not appear to actually use in any event). Second, unlike the draft opinion, the final does not simply ignore the effects of global warming on the freshwater habitat of salmon and steelhead but, just as irrationally, it concludes that too little is known about these effects and/or they are too far in the future to even address in the jeopardy analysis. Id. at 7-14 Neither the available scientific information nor the law support this approach. See generally ISAB, Climate Change Report at 91-95 (summarizing key findings) (May, 2007). Finally, to the extent the various no-jeopardy findings rely on the qualitative discussion of actions that may address the impacts of climate change, see, e.g., 2008 FCRPS BiOp at 8.2-27 to 8.2-28 (discussion for Snake River Fall Chinook) (similar discussions appear in similar sections of other ESUs), these actions are not new measures to address climate change effects but the same old measures that have been part of planned actions for some time – in fact, these actions were developed and adopted to address current hydrosystem effects, not those arising from global warming. See id. (describing “installation of RSWs and other passage improvements” and cold water releases from Dworshak Dam).
- The no-jeopardy finding for Snake River Sockeye salmon is arbitrary, inconsistent with other analyses, and disregards the best available scientific information. The jeopardy analysis for this species is qualitative and is set forth in Chapter 8.4 of the 2008 FCRPS BiOp. While the analysis notes that the species faces “a very high risk of extinction,” 2008 FCRPS BiOp at 8.4-3, it also asserts that “[b]etween 1999 and 2007, more than 355 adults returned from the ocean from the captive broodstock releases – almost 20 times the number of wild fish that returned in the 1990s,” id. This summary fails to disclose that 257 of these 355 fish returned in one year (2000), and that recent returns have been very poor – 27 adults in 2004, 6 in 2005, 3 in 2006, and 4 in 2007 – hardly an improvement on the returns of the early 1990s. Nonetheless, NOAA finds that “[t]he aggregate effects of

the environmental baseline, the Prospective Actions, and cumulative effects will be an improvement in the viability of SR sockeye salmon,” *id.* at 8.4-22, and it concludes that “[t]aking into account the obstacles faced, the Prospective Actions provide for the survival of the species with an adequate potential for recovery,” *id.* at 8.4-23. Even though this conclusion strains credulity on its face, it also ignores a number of relevant factors including, but not limited to: (1) the primary action in the 2008 PA/RPA for this species is an increase in the production of hatchery smolts from the captive breeding program, *id.* at 8.4-19 (“[f]und further expansion of the sockeye program to increase total smolt releases to between 500,000 and 1 million fish”), even though the species already is sustained only through hatchery production and the scientific evidence demonstrates that such production has long-term deleterious effects on species recovery; (2) the hydrosystem operations NOAA asserts will help other species, particularly the elimination of spring spill for several weeks and increased reliance on transportation, are likely to harm Snake River Sockeye because transportation provides little if any benefit to this species yet the termination of spring spill and maximization of transportation will occur at a time when a high percentage of sockeye smolts are attempting to migrate past the Snake River dams; and, (3) NOAA has not identified any specific actions for this species – other than the general hydrosystem measures at least some of which are themselves harmful – that would reduce the negative effects of the hatchery program and improve conditions in the species’ migratory corridor enough to avoid appreciable reductions in the likelihood of both survival and recovery. In the absence of such steps, the 2008 FCRPS BiOp both reaches an improper no-jeopardy finding for Snake River Sockeye and, therefore, appears to be an attempt to provide an exemption from the jeopardy prohibition of ESA section 7(a)(2) for this species without following the requirements prescribed by law, *see* 16 U.S.C. § 1536(h) (requirements the agency could not meet in any event).

- The 2008 FCRPS BiOp jeopardy analysis fails to address the harmful effects of hatcheries on species recovery instead deferring that analysis to a future biological opinion. *See, e.g.*, 2008 FCRPS BiOp at 8.2-27 (noting as a qualitative factor supporting a no-jeopardy finding that “ICTRT concerns about high diversity risks are being addressed through hatchery Prospective Actions”), 8.2-29 (noting that “risks associated with supplementation will be reduced through on-going hatchery reviews and consultations as indicated in Section 8.2.5.4”), 8.2-22 (Section 8.2.5.4 discussing hatchery Prospective Actions but noting that they are largely future action that have not yet been and cannot be subject to consultation). At the same time, the analysis includes, at least qualitatively (and in some cases quantitatively) the allegedly beneficial effects of hatchery programs on mitigating the short-term risk of extinction. *See, e.g., id.* at 8.2-29 (Snake River Fall Chinook are heavily supplemented . . . contributing to total abundance and thereby reducing short-term extinction risk), *id.* at 8.7-27 to 8.7-29 (discussing quantitative analysis for Upper Columbia Steelhead. NOAA fails to provide either a legal or a rational basis for this bifurcation of its consideration of the effects of hatchery programs in the jeopardy analysis. To the extent the agency asserts it may disregard the future harmful effects of hatcheries on species recovery because some of these effects will accrue beyond the ten-year period of this biological opinion and/or because these future hatchery actions have not undergone ESA consultation, it provides no basis for

crediting any near-term survival benefits of these actions in its jeopardy analysis since, among other considerations, they are likely to be more than offset by future harm that the agency has no grounds to ignore. See NWF v. NMFS, 524 F.3d at 933, n.12 (noting generally the harmful effects of long-term reliance on hatchery program on species recovery).

- The 2008 FCRPS BiOp jeopardy analysis relies to a substantial degree, and for many populations, on the alleged benefits of habitat restoration actions to offset the harm from ongoing hydrosystem measures in order to reach a no-jeopardy finding. This reliance is, among other things, contrary to the best available scientific information about the potential role of habitat actions to offset hydrosystem impacts, fails to take into account the risks and uncertainties surrounding these habitat measures and their effects, depends on a new and novel “habitat model” that lacks scientific validity, and fails to acknowledge or account for the contrary effects of continued habitat degradation in some or all of the watersheds targeted for beneficial actions.
- The 2008 FCRPS BiOp asserts in numerous places that its jeopardy analysis is “conservative” overall because it underestimates the beneficial effects of the 2008 PA/RPA and overestimates the risks the species face. See, e.g., 2008 FCRPS BiOp at 8.2-28 (“hydro improvements have not been calculated for [Snake River Fall Chinook], so all estimates would be greater than 1.0 if these improvements had been included in the calculations”), 8.4-3 (noting high extinction risk for Snake River Sockeye but also asserting that since 1999 “almost 20 times the number of wild fish” have returned than returned in the 1990s without disclosing that 257 of these 355 fish returned in one year and recent returns have again dropped to single digits), 8.6-27 (noting for Upper Columbia River Chinook that the “Prospective Actions include a strong monitoring program” without disclosing the shortcomings and omissions from this program) (a similar point regarding monitoring is made for other ESUs). NOAA also provides a general table of what it describes as the optimistic, neutral, and pessimistic assumptions employed in the jeopardy analysis. See id. at 7-30 to 7-31. This table, and the analyses for the individual populations and ESUs, is seriously and substantially incomplete and consequently misleading in its discussion of the effects of various assumptions NOAA makes on the jeopardy analysis. For example, the 2008 FCRPS BiOp fails to acknowledge or address appropriately, among other issues, (1) the increased risk to both survival and recovery posed by the “trending towards recovery” standard because it allows populations to persist at low abundance and productivity for an indefinite period; (2) the increased risk to both survival and recovery posed by the agency’s failure to articulate anything other than subjective considerations for combining population and major population group risks to arrive at an overall jeopardy evaluation for an ESU/DPS, see, e.g., 2008 FCRPS BiOp at 7-49 to 7-51, thereby disregarding the considerable scientific evidence that security at the species level requires considerably more than minimal security at the population level; (3) the very substantial risk that the quantitative analyses for the base-to-current adjustment, survival gap calculations, and current-to-prospective adjustments are so infected by uncertainty of numerous kinds that they provide very little reliable information; (4) the very substantial risk that the various estimates of benefits for hydrosystem, habitat, and hatchery actions, both in the base-to-

current and in the current-to-prospective adjustments, actually overestimate benefits because the analyses treat actions in each of these areas as fully independent when they are not; (5) the very substantial risk to both survival and recovery posed by the fact that the various models on which NOAA relies are inadequate or inappropriate to the purposes for which they are employed; (6) the very substantial risk that the research, monitoring, and evaluation that is part of the 2008 PA/RPA either does not address the relevant biological issues or will not timely detect adverse effects or both; (7) the very substantial risk to both survival and recovery posed by freshwater and ocean effects of climate change, effects the opinion improperly treats as either too uncertain to address or as addressed conservatively by assumptions that are at odds with the best available scientific evidence; and, (8) the very substantial risks to both survival and recovery posed by the failure to address all of the factors relevant to the adverse effects of hatchery and habitat actions, both those that are a part of the 2008 PA/RPA and those that are not.

3. *The Analysis of Destruction and Adverse Modification of Critical Habitat in the 2008 FCRPS BiOp Is Contrary to Law and Arbitrary.*

84. The analysis of whether the 2008 PA/RPA destroys or adversely modifies designated critical habitat of listed salmon and steelhead in the Columbia Basin also is arbitrary and capricious, contrary to law, and fails to use the best available scientific information for reasons that include, but are not limited to, the following:

- The analysis employs an arbitrary definition of the “current pre-Prospective Action condition of designated critical habitat relative to the functionality of its PCEs (primary constituent elements).” 2008 FCRPS BiOp at 7-52. This definition is crucial to the analysis of whether the 2008 PA/RPA destroys or adversely modifies critical habitat because it establishes the basis for comparing the environmental baseline and the likely future state of critical habitat after implementation of the Prospective Actions. NOAA’s approach to defining existing environmental conditions skews this analysis by assuming as part of the environmental baseline current and recent adverse environmental conditions that are to a significant degree under the control of the operating agencies, such as mainstem river flows, amount of spill at mainstem hydroelectric dams, and water temperature. By doing so, NOAA arbitrarily evaluates proposed hydrosystem operations against a baseline that already includes ongoing operations that NOAA acknowledges have adverse impacts on the designated critical habitat of ESA-listed salmon and steelhead.
- NOAA failed to assess whether improvements in operations of the FCRPS that affect PCEs are necessary in order to avoid destruction or adverse modification of critical habitat.
- NOAA arbitrarily evaluates the impacts of the 2008 PA/RPA only on the habitat’s value to the listed ESUs/DPSs’ “long term trend toward recovery” rather than on the species’

actual “likelihood of . . . recovery.” 50 C.F.R. § 402.02 (definition of “destroy or adversely modify”). This allows NOAA to examine only whether the actions’ impacts on critical habitat reduce appreciably the likelihood that salmon and steelhead will trend toward recovery – i.e. the likelihood that their populations will show some increase over time, even if very slight – rather than complying with Section 7’s directive to assess whether the actions’ impacts on critical habitat will reduce appreciably the likelihood that listed ESUs/DPSs will actually recover, i.e. the likelihood that listed ESUs/DPSs will increase their populations to the point that they may be removed from protection under the ESA.

- By considering only the impacts of the 2008 PA/RPA on each ESU’s or DPS’s “long term trend toward recovery,” rather than their likelihood of actual recovery, NOAA avoids identifying or considering the rate of population growth or any other measure of improvement necessary for the species to actually recovery in assessing whether these actions destroy or adversely modify critical habitat, contrary to this Court and the Ninth Circuit’s prior decision in this case. See, e.g. NWF v. NMFS, 524 F.3d at 936 (“It is only logical to require that the agency know roughly at what point survival and recovery will be placed at risk before it may conclude that no harm will result from ‘significant’ impairments to habitat that is already severely degraded.”).
- The analysis of critical habitat-related impacts on listed ESUs/DPSs also fails to rationally account for potentially serious short-term impacts and fails to consider adequately how these short-term risks affect the conservation of listed salmon and steelhead, again contrary to the decisions of the Court and the Ninth Circuit. See, e.g., NWF v. NMFS, 524 F.3d at 934-935.
- In assessing whether the 2008 PA/RPA destroys or adversely modifies designated critical habitat of the listed ESUs, NOAA further fails to consider the impacts of the actions in light of available information describing steps necessary for salmon and steelhead recovery, as well as in light of available information describing recovered salmonid populations. This information includes, but is not limited to, NMFS, *Viable Salmon Populations* (2000); NMFS, *Habitat Approach* (1999), 2000 AR B.154; NMFS, *Proposed Recovery Plan for Snake River Salmon* (1995); Federal Caucus, *Conservation of Columbia Basin Fish* (2000); and Northwest Power and Conservation Council, *Return to the River* (2000), and the more recent work of the ICTRT also discussed herein.
- Finally, the critical habitat analysis fails to consider impacts on the PCE of water quality stemming from oil discharges and spills from federal dams on the Columbia and Snake Rivers.

C. Other Claims Against the 2008 FCRPS BiOp.

1. *NOAA's Concurrence in the Action Agencies' Conclusion That the 2008 PA/RPA Is Not Likely to Adversely Affect Endangered Southern Resident Killer Whales Is Arbitrary and Contrary to Law.*

85. NOAA listed Southern Resident Killer Whales (“SRKW”) as an endangered species in 2005. 70 Fed. Reg. 69903-69912 (Nov. 18, 2005). In 2007, the SRKW population consisted of 87 whales, down from estimated historical levels of 140 to 210 whales. 2008 FCRPS BiOp at 9-3. Although these whales congregate in the inland waters of Puget Sound and the Straits of Georgia and Juan De Fuca during the summer months, certain pods range outside these waters during the fall, winter, and spring months in search of food. Members of these pods have been regularly identified along the Washington and Oregon coasts (and sometimes as far south as Monterey Bay in California) and at the mouth of the Columbia River in particular at certain times of the year. 2008 FCRPS BiOp at 9-7. Perhaps the primary threat leading to the SRKW listing is the decline in abundance and availability of salmon, which is the whales’ preferred food source. *Id.* at 9-4. Because operation of the FCRPS affects salmon abundance, the 2008 FCRPS BiOp includes a short chapter considering the impacts of the 2008 PA/RPA on SRKW.

86. Although SRKW consume a variety of fish species, they prefer chinook salmon, which are larger in size and have a higher fat content. *Id.* at 9-7 to 9-8. NOAA found in the Recovery Plan for Southern Resident Killer Whales that “[p]erhaps the single greatest change in food availability for resident killer whales since the late 1800s has been the decline of salmon from the Columbia River basin.” Recovery Plan for Southern Resident Killer Whales (“Recovery Plan”) (January, 2008) at II-82.

87. In the 2008 FCRPS BiOp, NOAA focuses its entire discussion of the effects of FCRPS operations on SRKW on salmon abundance. The agency simply “compared the percent

increase in adult Chinook from the hatchery actions to the total mortality rate for juvenile Chinook passing through the hydrosystem” and concluded that “the hatchery production contained in the Prospective Actions more than mitigates for losses to the killer whale prey base, regardless of the source of loss.” 2008 FCRPS BiOp at 9-16 to 9-17. Because it believes that the Prospective Actions, including mitigation hatcheries, can provide a net benefit to endangered whales (i.e., the action agencies will produce slightly more salmon in hatcheries than they will kill by operating the hydrosystem), NOAA concurs with the action agency’s assessment that the 2008 PA/RPA is “not likely to adversely affect” SRKW, 2008 FCRPS BiOp at 9-21, and hence does not include the SRKW in a formal jeopardy analysis.

88. NOAA concurrence in this finding ignores the best available science and violates the requirements of the ESA and its implementing regulations for at least the following reasons:

- First, NOAA’s focus on the relative numbers of chinook salmon, especially hatchery-produced chinook, fails to capture the true impacts to SRKW of salmon mortality caused by operation of the FCRPS. Both the Recovery Plan and the State of Washington’s “Status Report for the Killer Whale” recognize that hatchery salmon are not equivalent to their wild counterparts as a food source for SRKW. See, e.g., “State of Washington Status Report for the Killer Whale” (2004) at 57-58. For example, hatcheries are often managed to compress run timing such that nearly all the fish return over a short period. While the sheer numbers of returning fish may approach levels necessary to sustain SRKW, the hatchery fish may all return within a two-week span rather than over a period of many months. Consequently, they will not provide an equivalent and available source of food to the same or even a smaller number of wild salmon. See id. at 58 (noting example of compressing run timing from 14 to 8 weeks); see also id. at 57 (noting that hatchery salmon are often smaller and contain less fat than wild salmon, which reduces the caloric value of each fish consumed by killer whales). NOAA’s singular focus on an annual number of fish ignores relevant factors such as the quality and availability of salmon in specific times and places.
- Second, similar to the illegal comparative analysis in the 2004 FCRPS BiOp, NOAA’s “net effects” analysis of salmon numbers for killer whales does not account for the effects of the environmental baseline, the status of the species, or cumulative effects. NOAA’s approach fails to consider, for example, what number and quality of fish would be needed from the Columbia River Basin to ensure SRKW survival and recovery. Elsewhere in the 2008 FCRPS BiOp, of course, NOAA has determined that the status of these fish must improve to ensure their survival and recovery. But in its discussion of the effects on

SRKW, NOAA considers only the ability of hatchery fish to replace or outweigh the numbers of fish killed by the hydrosystem – a figure that is based on current numbers of salmon. It is this status quo which led the agency in the Recovery Plan to conclude that the decline of Columbia River basin salmon was perhaps “the greatest change in food availability ... since the 1800s.” A proper analysis would begin with the effects of the degraded baseline on SRKW and then add the effects of the action and any cumulative effects to the baseline. By ignoring the effects of already-depleted salmon runs, NOAA has cemented current hydrosystem mortality into the SRKW prey base without asking whether continuing this situation, together with the 2008 PA/RPA, will appreciably reduce the SRKW’s likelihood of survival and recovery.

89. In sum, NOAA’s concurrence in the 2008 FCRPS BiOp with the Action Agencies’ finding that the 2008 PA/RPA is not likely to adversely affect the endangered Southern Resident Killer Whales ignores the “best scientific and commercial data available,” 16 U.S.C. § 1536(a)(2), and is contrary to the ESA and its implementing regulations, 50 C.F.R. §§ 402.02; 402.14.

2. *NOAA Has Misdefined the Action Area for This Consultation and Failed to Consider Cumulative Effects With Adverse Impacts.*

90. NOAA defines the action area for this consultation to include the mainstem Snake and Columbia Rivers, and extending to “[t]he subbasins that are the focus of the Action Agencies’ proposed non-hydro mitigation projects, designed to offset adverse effects of their proposed hydro operations” and to “[a]ll additional spawning areas above Bonneville Dam that are accessible to listed adult salmon or steelhead that are affected by the FCRPS RPA.” 2008 FCRPS BiOp at 4-4 to 4-4; see also SCA at 5-27 (explaining that spawning areas are included because of hydrosystem’s impact on delivery of marine nutrients streams). Because these subbasins in which mitigation projects will occur and spawning habitat are listed separately, NWF presumes that the “subbasins” where the Action Agencies have proposed offsite mitigation extend higher into the watersheds above those areas where salmon and steelhead may spawn.

91. There are two related problems with NOAA’s identification of the action area for this consultation. First, NOAA defines the action area too narrowly: by focusing on watersheds

where the action agencies have proposed beneficial actions, NOAA has excluded watersheds or subbasins that might contain either ongoing or future harmful projects by federal, state, or private actors. To the extent NOAA seeks to count the benefits of the RPA measures in certain watersheds, the action area must also encompass those watersheds where harmful actions may occur. Instead of achieving parity and taking a consistent approach, NOAA has defined the action area to exclude those watersheds where potentially harmful effects (whether from federal, state, or private actions) will occur. See NWF v. NMFS, 254 F.Supp.2d at 1212 (finding that because NOAA relies on “range-wide off-site mitigation habitat, harvest, and hatchery actions” to avoid jeopardy, “[t]he court is left with the firm conviction that the range-wide area is therefore indirectly, if not directly, impacted by FCRPS operations” and part of the actions area).

92. Closely related to this, the jeopardy analysis in the 2008 FCRPS BiOp also fails to include an accurate and complete description of the cumulative effects that must be considered together with the effects of the action in determining whether the proposed action would cause jeopardy. 50 C.F.R. § 402.14(g). The ESA requires NOAA to “evaluate the effects of the action and cumulative effects” 50 C.F.R. § 402.14 (g)(3). Cumulative effects include the “effects of future State or private activities, not involving federal activities, that are reasonably certain to occur within the action area.” 50 C.F.R. § 402.02.

93. NOAA relied almost exclusively on states and tribes to identify actions occurring in the action area that would meet the standards of the ESA regulations for cumulative effects. See, e.g., 2008 FCRPS BiOp at 8.3-17 (Snake River spring/summer chinook). NOAA cannot abdicate its duty to identify these cumulative effects by either delegating the task to others or relying only on their input. Moreover, the actions NOAA analyzed to determine whether they are “reasonably certain to occur” are limited to actions geared toward “protection and/or

restoration of existing degraded fish habitat.” Id. Indeed, the pages of charts included in Chapter 17 of the Comprehensive Analysis describe projects that are almost universally aimed at benefiting salmon. There is nowhere even listed – let alone some analysis of the effects of – specific actions such as logging, grazing, irrigation withdrawals, water quality permits, or any other activity with the potential to harm salmon.¹⁵ Though it is difficult to discern which cumulative effects NOAA considered in its jeopardy analysis for each ESU/DPS, to the extent that NOAA relies on the information in the 2008 FCRPS BiOp, SCA, and CA about beneficial actions identified during the collaboration process, the agency also has an independent duty to seek and consider information about any actions that have the potential to cause harmful effects. NOAA has not provided any such full accounting of the negative effects of the myriad other State, tribal, and private actions throughout the Columbia Basin in the 2008 FCRPS BiOp.

CLAIMS FOR RELIEF

NATIONAL MARINE FISHERIES SERVICE’S VIOLATIONS OF THE ESA AND APA

94. Plaintiffs incorporate by reference all preceding paragraphs.

95. NOAA has failed to follow, and has violated, the requirements of ESA Section 7 and its implementing regulations, and has arbitrarily, capriciously, without any rational basis in disregard of the best available scientific information concluded in the 2008 FCRPS BiOp that the proposed actions of the Corps, BPA and BOR are not likely to jeopardize any listed species or destroy or adversely modify their critical habitat. The defects in the 2008 FCRPS BiOp include, but are not limited to, those described in paragraphs 63-93 above. NOAA’s actions and

¹⁵ While NOAA describes for each ESU/DPS a short and general list of actions that may have harmful effects, it concludes that “it is not possible to quantify these effects” and provides no additional information about how it considered them in its jeopardy analysis. See 2008 FCRPS BiOp at 8.3-18 (listing such “actions” as non-specific water withdrawals, fishing permits, “legislation,” “policy initiatives” and “resource extraction”).

omissions are arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law and are reviewable under the APA, 5 U.S.C. §§ 701-706.

PRAYER FOR RELIEF

WHEREFORE, plaintiffs respectfully request that the Court:

1. Adjudge and declare that NOAA has violated ESA Section 7 and its implementing regulations by making no-jeopardy/no-adverse modification findings in the 2008 FCRPS BiOp and issuing an incidental take statement and other permits that are arbitrary, capricious, an abuse of discretion and otherwise not in accordance with law;
2. Vacate and set aside the 2008 FCRPS BiOp and the accompanying incidental take statement and permits, and enjoin NOAA to notify the Action Agencies of these actions, and reinstate consultation with the Action Agencies in order to prepare a biological opinion for the FCRPS, its operations, and any related actions that complies with the requirements of the ESA;
3. Grant plaintiffs such preliminary and permanent injunctive relief as they may from time-to-time request and as may be necessary to protect the environment and ESA-listed species until the Court decides the merits of this case or the agency complies with the law;
4. Award plaintiffs their reasonable fees, costs, expenses, and disbursements, including attorneys fees, associated with this litigation; and,
5. Grant plaintiffs such further and additional relief as the Court may deem just and proper.

Respectfully submitted this 17th day of June, 2008.

/s/ Stephen D. Mashuda

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