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THE FIGHT OVER COLUMBIA BASIN SALMON SPILLS AND THE FUTURE OF THE LOWER SNAKE RIVER DAMS

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Doug DeRoy**

Abstract:

One of the nation's most longstanding environmental-energy conflicts concerns the plight of numerous Columbia Basin salmon species which must navigate the Federal Columbia River Power System (FCRPS), a series of hydroelectric dams that make the basin one of the most highly developed in the world. Although the FCRPS dams produce a wealth of hydropower, the mortalities they cause due to the construction and operation of FCRPS dams led to Endangered Species Act listings for the basin's salmon. Since those listings a quarter-century ago, the federal government has repeatedly failed to produce biological opinions that can survive judicial scrutiny. The latest round of litigation resulted in renewed directives from the federal district court of Oregon to revise the current biological opinion and to spill more water at several dams in the interim to facilitate juvenile salmon migration. The directive to increase spill was upheld by the Ninth Circuit in 2018, but the U.S. House of Representatives quickly voted to overturn that decision, and the Senate now has the matter under consideration.

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INTRODUCTION

This article considers the latest round of Columbia Basin salmon litigation and the threat of congressional intervention. We also examine the fate of four Snake River FCRPS dams that have proved particularly hazardous to listed salmon.

These dams provide no flood control, create electric power that is easily replaceable, and allow barge transportation for which there are ready substitutes. The article maintains that since these four dams can pass no reasonable cost-benefit test, Congress should not act to revise the court-ordered spills but instead order the lower Snake River dams removed. Removing the lower Snake River dams would begin the restoration of the listed Snake River salmon and transform the economy of the Snake Basin in eastern Washington, Oregon, and Idaho.

The Columbia Basin salmon saga continued in 2018 with the Ninth Circuit's quick affirmance of Judge Michael Simon's 2017 decision to grant additional spill over federal dams to facilitate downstream salmon passage.¹ This decision followed Judge Simon's 2016 rejection of the latest federal biological opinion (BiOp) that attempted to demonstrate compliance with the Endangered Species Act (ESA) for numerous salmon species, listed largely due to construction and operation of federal dams.² This rejection was only the latest in a long line of judicial rebuffs of similar efforts over the last two decades,³

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We thank Lin Laughey for helpful comments on a draft of this article.

1. See *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (NWF v. NMFS)*, 886 F.3d 803 (9th Cir. 2018).

2. *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (NWFV)*, 184 F. Supp. 3d 861 (D. Or. 2016). There are 13 ESA-listed species of salmonids affected by the operations of the FCRPS, *id.* at 879: (1) Snake River fall chinook salmon; (2) Snake River spring/summer chinook salmon; (3) Snake River steelhead; (4) Upper Columbia River spring chinook salmon; (5) Upper Columbia River steelhead; (6) Middle Columbia River steelhead; (7) Snake River sockeye salmon; (8) Columbia River chum salmon; (9) Lower Columbia River chinook salmon; (10) Lower Columbia River coho salmon; (11) Lower Columbia River steelhead; (12) Upper Willamette River Chinook salmon; and (13) Upper Willamette River steelhead. *Id.* Of these, 11 are listed as threatened and two—the Upper Columbia River spring chinook salmon and the Snake River sockeye salmon—are listed as endangered. Recent data shows that 65 percent of the populations in the listed evolutionary significant units (“ESUs”) are at “high risk” of extinction and 28.5 percent are at a “maintained” risk of extinction (the second-highest risk category), while only 4 percent are considered “viable” and just 2.5 percent are considered “highly viable”. *Id.* at 879–80.

3. The recent decisions in this seemingly endless journey are described in a series of articles that include Michael C. Blumm, Erica J. Thorson & Joshua D. Smith,

although there were some new wrinkles in this decision, including a directive for federal implementing agencies to produce an adequate environmental impact statement to comply with the National Environmental Policy Act and, in 2017, to increase spill at the dams pending completion of an adequate BiOp.⁴

The Ninth Circuit's affirmation of Judge Simon's spill decision prompted a group of Northwest Republicans in Congress, led by Cathy McMorris-Rodgers (R-Wash.)—and joined by Democrat Kurt Schrader (D-Or.)—to draft a congressional override to the Simon decision that sailed through the U.S. House of Representatives in 2018.⁵ This ill-advised measure would preserve hydropower that the Northwest no longer needs, as the Bonneville Power Administration (BPA) currently produces more power than it can market to its contracted customers.⁶ When this Article went to press in early 2019, the House bill faced an uncertain future in the Senate.

The Senate's reluctance to endorse the House bill may have

Practiced at the Art of Deception: The Failure of Columbia Basin Salmon Recovery Under the Endangered Species Act, 36 ENVTL. L. 709 (2006) [hereinafter *Practicing Deception*]; Michael C. Blumm & Hallison T. Putnam, *Imposing Judicial Restraints on the "Art of Deception": The Courts Cast a Skeptical Eye on Columbia Basin Salmon Restoration Efforts*, 38 ENVTL. L. 47 (2008) [hereinafter *Restraints on the Art of Deception*]; Michael C. Blumm & Aurora Paulsen, *The Role of the Judge in ESA Implementation: District Judge James Redden and the Columbia Basin Salmon Saga*, 32 STAN. ENVTL. L.J. 87 (2013) [hereinafter *The Judicial Role in ESA Implementation*]; Michael C. Blumm, Juliane L. Fry & Olivier Jamin, *Still Crying Out For a "Major Overhaul" After All These Years—Salmon and Another Failed Biological Opinion on Columbia Basin Hydroelectric Operations*, 47 ENVTL. L. 287 (2016) [hereinafter *Still Crying Out*]. For an account of the earlier odyssey, see MICHAEL C. BLUMM, *SACRIFICING THE SALMON: A LEGAL AND POLICY HISTORY OF THE DECLINE OF COLUMBIA BASIN SALMON*, at 129–60 (2013) [hereinafter *SACRIFICING THE SALMON*].

4. See *infra* notes 32–34 and accompanying text.

5. H.R. 3144, 115th Cong. (as passed by House, April 25, 2018).

6. Anthony Jones et. al., *The Bonneville Power Administration 2018: Threatened, Endangered, or on the Brink of Extinction?*, ROCKY MOUNTAIN ECONOMETRICS, May 2018, <http://www.rmecon.com/examples/BonnevillePower%20May%202018.pdf> [<https://perma.cc/HD95-TD26>] [hereinafter *Brink of Extinction*]; Anthony Jones et. al., *Bonneville Power Administration and the Lower Snake River Dams: The Folly of Conventional Wisdom*, ROCKY MOUNTAIN ECONOMETRICS, June 2018, <http://www.rmecon.com/examples/BPA%20%20LSRDs%206-5-18.pdf> [<http://perma.cc/PW4J-MVUU>] (“Since 2011, hydropower alone from twenty-seven of BPA’s thirty-one dams—excluding the four LSRDs and all other sources of power—has produced more energy than the load demand of all of BPA’s preference customers”).

to do with several recent economic studies that showed that the Northwest is awash in electric power and that the cost of breaching the Lower Snake River (LSR) dams, which would obviate the need for the additional spill that Judge Simon ordered, would have no significant effects on the region's economy.⁷ These studies show the brightest economic future of the Columbia Basin lies not with the continuation of the substantial federal subsidies necessary to maintain the LSR dams,⁸ but with the elimination of those subsidies and restoration of a free-flowing lower Snake River that could revitalize the central Idaho economy around the state's exceptional salmon habitat.⁹

This article pieces together these judicial, legislative, and administrative developments in an effort to assess the future of the LSR dams that were authorized without much express congressional deliberation toward the end of World War II,¹⁰ and which have not delivered on any reasonable expectation of economic value.¹¹ These dams, which cannot pass any sort of cost-benefit test, provide no flood control, marginal electric power that is uneconomic to the region, and highly subsidized barge transport of agricultural products for which there are ready and economical alternatives. Like other uneconomical dams, it is time for these dams to go. Unlike those other dams—most of which have been removed by private utilities¹²—the LSR dams must be removed by the federal

7. See *infra* notes 94–104 and accompanying text.

8. Costs of LSR dam operations include dredging to control sediment and avoid flooding as well as lock maintenance. See *infra* note 92.

9. A 2005 study on the potential economic impact of restored salmon and steelhead fishing in Idaho concluded that a restored salmon and steelhead fishery would bring almost \$550 million every year to Idaho's economy. DON C. READING, THE POTENTIAL ECONOMIC IMPACT OF RESTORED SALMON AND STEELHEAD FISHING IN IDAHO (2005), <https://www.wildsalmon.org/images/PDFs/FishingEconReport.05.pdf> [<https://perma.cc/NC77-9UH5>]. Communities in the Salmon River and Clearwater River basins, from Lewiston to Stanley, would be the biggest beneficiaries of restored salmon and steelhead fisheries—\$331 million per year. *Id.* The LSR dams were never even expressly authorized by Congress. See also Michael C. Blumm, *Saving Idaho's Salmon: A History of Failure and a Dubious Future*, 28 IDAHO L. REV. 667, 672–73 (1992).

10. See SACRIFICING THE SALMON, *supra* note 3, at 96–97.

11. See *infra* notes 88–94, 117–118 and accompanying text.

12. See Michael C. Blumm & Andrew B. Erickson, *Dam Removal in the Pacific Northwest: Lessons for the Nation*, 42 ENVTL. L. 1043, 1068–96 (2012) (discussing

government. But the ongoing costs of maintaining the LSR dams should make them prime candidates for removal, thereby eliminating the subsidies necessary to maintain them. The issues involved in LSR dam removal often involve complex scientific questions which have become a political battleground frequently filled with misleading or simplistic information, particularly about the relative abundance of the existing Columbia Basin salmon runs, so we discuss those issues as well.

Section I of the article explains the Ninth Circuit's 2018 affirmation of Judge Simon's spill decision of the prior year, and describes the events leading up to the 2018 decision. Section II discusses the U.S. House of Representatives passage of H.R. 3144 in 2018, which would overturn the Ninth Circuit's decision with no real consideration of the economic effects of maintaining the LSR dams. Section III explores several recent studies by the Northwest Energy Coalition and others that reveal the Northwest has no economic need for power produced by the LSR dams and would gain economically by restoring the lower Snake to its free-flowing condition, particularly in central Idaho, blessed with the best remaining underused salmon habitat in the Columbia Basin.

I. THE NINTH CIRCUIT'S AFFIRMANCE OF JUDGE SIMON'S SPILL DECISION

The Ninth Circuit's affirmation of the district court's decision was only the latest in a long series of decisions about how the federal Columbia River Supply System (FCRPS) dams¹³ should comply with the requirements of the federal ESA¹⁴ because that statute protects thirteen salmon species migrating up and down the Columbia River and its principal

removal of the Condit, Little Sandy, Marmot, Savage Rapids, Gold Hill, and Gold Ray dams, the breaching of the Elk Creek dam, and the proposed removal of four Klamath River dams. The Elwha and Glines Canyon dams, in or near Olympic National Park, were congressionally removed, *see id.* at 1049–58).

13. The Federal Columbia River Power System (FCRPS) is an integrated system of 14 dams in the Columbia Basin that produces hydropower that federal Bonneville Power Administration markets throughout the West. *See BONNEVILLE POWER ADMIN. ET AL., THE COLUMBIA RIVER SYSTEM INSIDE STORY* 19–20 (2d ed. 2001).

14. Endangered Species Act of 1973 (ESA), 16 U.S.C. § 1531.

tributary, the Snake.¹⁵

A. *The District Court's Decision*

The salmon listings are now a quarter-century old.¹⁶ The federal government has required constant judicial oversight, including several injunctions, to comply with the ESA's requirements for the listed salmon affected by FCRPS operations. The current round of ESA litigation over FCRPS operations began in 2000, a full eighteen years before the latest Ninth Circuit decision, when the National Marine Fisheries Service (NMFS) issued a BiOp that concluded that the hydroelectric operations would jeopardize listed salmon but that a reasonable alternative would avoid jeopardy.¹⁷ Environmentalists and the state of Oregon, supported by a coalition of tribes as *amici*,¹⁸ challenged the adequacy of that BiOp, and the District Judge James Redden agreed with the plaintiffs, ordering the agency to issue a new BiOp.¹⁹ The revised BiOp, issued in 2004, surprisingly concluded there was no jeopardy associated with FCRPS operations.²⁰ However,

15. See *supra* note 2. On the ESA's effect on salmon and vice-versa, see Michael C. Blumm & Greg D. Corbin, *Salmon and the Endangered Species Act: Lessons from the Columbia Basin*, 74 WASH. L. REV. 519, 591–602 (1999).

16. Snake River Fall-run chinook, Snake River Spring/Summer-run chinook, and Snake River sockeye were each listed between 1991 and 1992. NOAA FISHERIES, STATUS OF ESA LISTINGS & CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON & STEELHEAD, http://www.westcoast.fisheries.noaa.gov/publications/gis_maps/maps/salmon_steelhead/critical_habitat/wcr_salmonid_ch_esa_july2016.pdf [https://perma.cc/ZM5L-4SBC]. The other 10 listed species were listed between 1997 and 1999, except for Lower Columbia River coho, listed in 2005. *Id.*

17. See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF v. NMFS*), 886 F.3d 803, 813 (9th Cir. 2018); see also *Practicing Deception*, *supra* note 3, at 749–60.

18. The tribal coalition included the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakama Indian Nation, and the Confederated Tribes of the Warm Springs Reservation of Oregon. The state of Oregon's participation in the litigation as a party (the tribes were only *amici*) should not be overlooked. Without Oregon as a party, after the Columbia Basin Accords, discussed *infra* note 27, there would have been no sovereign as a plaintiff, which could have had a material effect on the litigation.

19. See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF D*), 254 F. Supp. 2d 1196, 1211–12, 1215–16 (D. Or. 2003).

20. NMFS employed novel definitions of “jeopardy” and “agency action” in a transparent effort to reduce its ESA obligations. See *Practicing Deception*, *supra* note 3, at 770–74; see also *The Judicial Role in ESA Implementation*, *supra* note 3, at 123–

Judge Redden preliminarily enjoined implementation of that BiOp and ordered spills at FCRPS dams in order to facilitate juvenile salmon passage at the dams while NMFS prepared a revised BiOp.²¹ In 2005, the Ninth Circuit ruled that the district court did not abuse its discretion in ordering the spill, although it remanded the case, asking the lower court to consider narrowing the scope of its injunction.²² The district court rejected the 2004 BiOp on the merits,²³ and the Ninth Circuit affirmed in 2008.²⁴

That same year, 2008, NMFS issued another BiOp, this time acknowledging that FCRPS operations would in fact jeopardize listed salmon and adversely affect their critical habitat, but claimed that jeopardy could be avoided if the federal government pursued a reasonable alternative which included increased spill and numerous habitat restoration measures.²⁵ Two years later, the new Obama administration issued a supplemental BiOp, largely reiterating the prescriptions in the 2008 version.²⁶ That too was rejected by the district court, which ordered NMFS to issue a new BiOp by 2014.²⁷ Although

29.

21. See *Practicing Deception*, *supra* note 3, at 766–67, 795–96.

22. Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF II*), 422 F.3d 782 (9th Cir. 2005).

23. Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv., No. CV 01–640–RE, CV 05–23–RE, 2005 WL 2488447, at *3 (D. Or. Oct. 7, 2005) (“This remand, like the remand of the 2000 BiOp, requires NOAA and the Action Agencies to be aware of the possibility of breaching the four dams on the lower Snake River, *if all else fails*”) (emphasis in original); see *Practicing Deception*, *supra* note 3, at 774–94 (explaining the court’s reasoning); see also *The Judicial Role in ESA Implementation*, *supra* note 3, at 123–29.

24. Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF III*), 524 F.3d 917 (9th Cir. 2008); see also *Restraints on the Art of Deception*, *supra* note 3, at 50–57.

25. See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF v. NMFS*), 886 F.3d 803, 814 (9th Cir. 2018) (explaining that the actions included modifications of dam operations, reductions in predation, habitat restoration, improved hatchery management, and research and monitoring). On spills and their importance to salmon migration, see *Practicing Deception*, *supra* note 3, at 729–33.

26. Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF V*), 184 F. Supp. 3d 861, 881 (D. Or. 2016) (“[The 2010] BiOp incorporated the adaptive management implementation plan, which was developed in response to concerns expressed by Judge Redden in this case after reviewing the 2008 BiOp, and updated certain data, but otherwise retained the analysis from the 2008 BiOp”).

27. Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF IV*), 839 F. Supp. 2d 1117, 1131 (D. Or. 2011); see *The Judicial Role in ESA Implementation*, *supra* note 3, at 138–42. The Bonneville Power Administration, the federal agency marketing the

the litigation bought the government considerable time, the court required spill at FCRPS dams in the interim.²⁸

The next iteration of the BiOp occurred in 2014, again issued as a supplement to the 2008 version.²⁹ NMFS once more concluded that FCRPS operations could avoid jeopardy and adverse critical habitat modification if NMFS and the implementing agencies pursued a reasonable alternative that included some 74 separate actions over a ten-year period.³⁰ Environmentalists and the state of Oregon challenged the BiOp once again, claiming that its implementing measures also violated the National Environmental Policy Act (NEPA).³¹

When Judge Redden retired, Judge Michael Simon inherited the case. He also found NMFS's Endangered Species Act (ESA) implementation wanting. In 2016, in an exhaustive 149-page opinion, Judge Simon determined that NFMS violated both the ESA and the Administrative Procedure Act, and that federal agencies operating the dams violated NEPA by failing to perform a comprehensive environmental impact statement (EIS) on the effect of FCRPS operations.³² The court ordered a new BiOp by 2018 and the EIS within five years or by 2021.³³

But in early 2017, the environmentalists and the state of Oregon sought interim injunctive relief to help remedy the

electricity produced by the FCRPS projects convinced the state of Washington and several tribes to drop the litigation in return for nearly \$1 billion over 10 years, mostly for habitat restoration; however, the state of Oregon and the Nez Perce Tribe turned down the money and pursued the litigation. See *Still Crying Out*, *supra* note 3, at 290–91 nn.8–9 (discussing the so-called Columbia Basin Accords, cited *infra* note 60).

28. See *Nat'l Wildlife*, 886 F.3d at 814.

29. See *id.*

30. See *id.* (explaining that the actions included modifications of dam operations, reductions in predation, habitat restoration, improved hatchery management, and research and monitoring).

31. See *Still Crying Out*, *supra* note 3, at 318–23 (also discussing the judicial ratification of the lethal program to eradicate cormorants from the Columbia Basin estuary because of their predation on juvenile salmon).

32. *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (NWF V)*, 184 F. Supp. 3d 861, 949–50 (D. Or. 2016), discussed in *Still Crying Out*, *supra* note 3, at 302–15, 318–23 (explaining both the measures in the NMFS' BiOp and Judge Simon's reactions to them). However, the district court did not find that FCRPS operations adversely affected the listed salmon's critical habitat and decided that they did not adversely affect Southern Resident Killer Whales in Puget Sound nor the Pacific Ocean. See *Nat'l Wildlife*, 886 F.3d at 814–15; see also *Still Crying Out*, *supra* note 3, at 316–18.

33. See *Nat'l Wildlife*, 886 F.3d at 815 (requiring a new BiOp due by Dec. 31, 2018, and a comprehensive EIS within five years or by 2021).

ESA violations identified in the court's 2016 opinion during the two-year period during which the new BiOp was being prepared. The plaintiffs requested increasing spills to maximum level permitted by state law as well as disclosure of any federal capital expenditures that could prejudice the NEPA process.³⁴ Oregon also asked for an order requiring the federal agencies to operate juvenile bypass facilities and monitoring systems at FCRPS dams.³⁵ Judge Simon granted the injunctive relief but delayed implementation until 2018.³⁶ It was this injunction that the federal government appealed to the Ninth Circuit, not the adequacy of the BiOp.

B. The Ninth Circuit's Decision

With unusual speed, on April 2, 2018, a panel of the Ninth Circuit unanimously affirmed Judge Simon's spill decision. The case had been argued only a couple of weeks earlier, yet the court published a detailed written opinion directing that the increased spill at FCRPS dams should begin almost immediately.³⁷ Conservation, fishing, and clean-energy groups celebrated the decision as a necessary measure to begin making the FCRPS system compatible with rebuilding listed salmon populations.³⁸ Power users and river navigators

34. *See id.* (explaining the proposal, which included exemptions for power emergencies and health and safety concerns). The states impose maximum spill limits by capping the amount of total dissolved gases (so-called "gas caps") under their water quality standards. High levels of dissolved gases injure juvenile salmon through gas bubble disease.

35. *See id.* (discussing so-called passive integrative transponder (PIT) detection systems).

36. *See id.* at 815–16 (calling for a spill plan with increased spills and PIT-tag monitoring beginning in 2018, and also requiring disclosure of some expenditures at FCRPS dams that could bias the results of the comprehensive EIS the court ordered).

37. *See Appeals Court Rules in Favor of More Spill for Juvenile Salmon, Steelhead at Columbia/Snake Dams*, *The Columbia Basin Bulletin* (April 6, 2018), <http://www.cbbulletin.com/440480.aspx> [<https://perma.cc/YC5S-FLNJ>] (noting that oral argument occurred on March 20, 2018, and the court handed the decision down just thirteen days later, on April 2; also indicating that would begin immediately at lower Columbia River dams and on April 10 at lower Snake dams).

38. *See id.* (quoting attorney Todd True: "After more than 20 years of federal failure, salmon are in desperate need of help now. The measures the court upheld will give salmon a fighting chance while the federal government catches up to the scale and urgency of what the law requires to protect these fish from extinction;" Liz Hamilton, representing sport fishers, said the claim of lost power was a "false alarm," since the Northwest power grid often has a surplus of power in the spring).

complained about the efficacy of spill and its costs.³⁹

After dismissing the federal government's procedural objections to the Simon decision and ruling that injunctive relief was permissible,⁴⁰ the Ninth Circuit considered the government's allegation that the injunction was overbroad. The government argued that the lower court's finding of irreparable harm was erroneous and that the remedy, if in fact there was such harm, was not sufficiently tailored.⁴¹ Determining the irreparable harm issue is the key to deciding ESA injunctions, as the statute restricts the equitable discretion of courts involving other injunctive relief factors.⁴²

The Ninth Circuit upheld Judge Simon's determination that FCRPS operations irreparably damaged listed salmon, explaining that he was not required to find a short-term extinction-level threat due to a lack of increased spill during the years that the new BiOp was under preparation. All that was necessary was a determination of a definite threat of future harm.⁴³ Thus, injunctive relief was proper even if there was no immediate extinction risk.⁴⁴ Simon was also not required—contrary to the government's allegation—to find harm based only on the lack of sufficient spill, rather than

39. BPA estimated the costs of additional spill at \$40 million annually, *see id.*, but that assumes that federal dams must be operated to maximize power product. And in fact, the court-order spill was “rendered moot” by high spring river flows and accompanying involuntary spills caused by high temperatures melting snow unusually early and producing flooding. *See Court-Ordered Spring Spill Now Moot as High Columbia/Snake Flows Forcing Involuntary Spill at Dams*, The Columbia Basin Bulletin (May 18, 2018), <http://www.cbbulletin.com/440765.aspx> [https://perma.cc/TD3W-LLM5].

40. The federal government alleged that the requested injunction was barred by Rule 60(b) of the Federal Rule of Civil Procedure 60(b), but the court decided that Judge Simon's 2016 decision was not a final one, and thus Rule 60(b) did not apply. *Nat'l Wildlife*, 886 F.3d at 816–17.

41. *Id.* at 817–20.

42. *See Cottonwood Env'tl. L. Ctr. v. U.S. Forest Serv.*, 789 F.3d 1075, 1088, 1090 (9th Cir. 2015) (ESA removes equitable judicial discretion concerning three factors of the four-factor injunctive relief question: presuming 1) the inadequacy of remedies at law, 2) that protecting listed species outweighs other interests, and 3) that the public interest would be served by the injunction), discussed in *Nat'l Wildlife*, 886 F.3d at 817–18. *See generally* Zygmunt J.B. Plater, *Statutory Violations and Equitable Discretion*, 70 Cal. L. Rev. 524 (1982).

43. *Nat'l Wildlife*, 886 F.3d at 819–20 (relying on *Nat'l Wildlife Fed'n v. Burlington N. R.R.*, 23 F.3d 1508, 1512 n.8 (9th Cir. 1994)).

44. *Nat'l Wildlife*, 886 F.3d at 818–19.

FCRPS operations as a whole, as the appellate panel recognized that it would be difficult to “cleanly divorce” the adverse effects due to an inadequate spill regime from the adverse effects from FCRPS operations as a whole.⁴⁵ And those aggregate operations, the court concluded, produced the majority of mortalities to the juvenile fish of listed species that remain in a “highly precarious status.”⁴⁶

The appeals court also rejected claims of a “mismatch” between Judge Simon’s conclusion that planned FCRPS operations would not adversely affect designated critical habitat and his decision on injunctive relief.⁴⁷ The court also dismissed the charge that Simon’s decision ignored improved “risk trends” for the listed species.⁴⁸ The panel emphasized that the district court “properly concluded” that the listed salmon species will remain in a precarious state without additional conservation efforts beyond the years covered by the BiOp, and that “the migration corridors [of the Snake and Columbia Rivers] are degraded, are not functional, and do not serve their conservation role.”⁴⁹ Thus, the fact that the government’s proposal would produce “significant improvements” in habitat “does not establish an absence of harm.”⁵⁰ Moreover, the lower court’s reliance on the fact that climate change was likely to make the situation worse was, according to the panel, was not clearly erroneous.⁵¹

Finally, the Ninth Circuit decided Judge Simon’s injunction was in fact “narrowly tailored” to avoid the irreparable harm identified by the district court, noting that Judge Simon evaluated expert testimony on both sides on the benefits of increased spill, and his conclusion favoring more spill was not

45. *Id.* at 819 (“Irreparable harm may be caused by activities broader than those that plaintiffs seek to enjoin.”).

46. *Id.* at 820 (citing data showing that 50 of 77 populations of salmon are at a “high level” of extinction, including 27 of 28 Snake River spring/summer chinook populations and all of the spring/summer chinook populations in the Upper ‘sColumbia River).

47. *Id.* at 821. Actually, there did seem to be such a mismatch. *See Still Crying Out*, *supra* note 3, at 316–18 (criticizing Judge Simon’s decision on critical habitat).

48. *Nat’l Wildlife*, 886 F.3d at 821 (claiming that such trends were either stable or improving).

49. *Id.* (quoting *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv. (NWF V)*, 184 F. Supp. 3d 861, 930 (D. Or. 2016)).

50. *Nat’l Wildlife*, 886 F.3d at 821.

51. *Id.*

clearly erroneous.⁵² The appeals court rejected the federal government's argument that the injunction had to match up precisely with the irreparable harm, deciding that only "a sufficient causal connection" between a lack of increased spill and harm was necessary.⁵³ The panel found the state of Oregon's evidence that increased spill would increase survival and adult returns of salmon especially persuasive,⁵⁴ further reflecting the important role the state has played in the litigation.⁵⁵ The fact that some scientific uncertainty about the efficacy of spill remained was not dispositive because that uncertainty did not make Judge Simon's injunction clearly erroneous.⁵⁶ Actually, properly understood, the ESA resolves this sort of scientific uncertainty in favor of listed species.⁵⁷

The last point deserves some emphasis: scientific uncertainty is not a reason for an appellate court to reverse injunctive relief ordered by a district court. Also worth emphasizing is the fact that the Ninth Circuit found that the determination of irreparable harm—necessary for the spill injunction—need not be confined to a specific finding of the damages the listed species suffered as a result of insufficient spill at FCRPS projects, but instead extends to all the damage inflicted by FCRPS operations.⁵⁸ The court's affirmation that the migration corridor—the river with FCRPS operations—was inadequate to avoid salmon jeopardy, especially given the effects of climate change,⁵⁹ was also noteworthy. Finally, the steadfast role of the state of Oregon in the litigation no doubt was a major factor in the results of the litigation, particularly

52. *Id.* at 823–24.

53. *Id.* at 823.

54. *Id.*

55. See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (*NWF I*), 254 F. Supp. 2d 1196 (D. Or. 2003); see also *Nat'l Wildlife*, 886 F.3d 803.

56. *Nat'l Wildlife*, 886 F.3d at 823–24. The court also upheld Judge Simon's injunction concerning requiring fish monitoring (so-called PIT-tag monitoring, see *id.* at 815) and an EIS requiring disclosure of certain FCRPS operations on grounds (to ensure that expenditures did not prejudice the result while the agencies prepared a new EIS on FCRPS operations) that the lack of monitoring was, like spill, part of a program causing irreparable harm, and the latter was not an appealable order. *Id.* at 824.

57. See Plater, *supra* note 42.

58. See *Nat'l Wildlife*, 886 F.3d at 818–20.

59. *Id.* at 821–22.

given that the state of Washington and several tribes agreed to withdraw in return for habitat funding from BPA.⁶⁰ Having two sovereigns—the state of Oregon and the Nez Perce tribe—supporting the environmentalists was in all probability determinative in terms of the outcome. Both sovereigns refused the BPA money to withdraw from the suit,⁶¹ and their persistence benefitted the salmon and those who depend upon them.

II. THE CONGRESSIONAL EFFORT TO OVERTURN THE SPILL DECISION

After the Ninth Circuit affirmed Judge Simon's decision, opponents of the spill decision wasted little time in coalescing around a congressional bill to overturn it. They drafted H.R. 3144, a bill that would 1) reinstate the judicially rejected 2014 BiOp, 2) forbid any operational changes from that BiOp without congressional approval, 3) foreclose any studies of possible changes in dam operations, like increased spill which could improve salmon survival, and yet 4) greenlight capital improvements that might foreclose future options.⁶² The bill proved quite popular among the lesser informed, perhaps influenced by claims that it was a bipartisan measure⁶³ that would save the federal government \$40 million annually on a so-called “experiment” at a time when salmon survival rates at “these dams” average “nearly ninety-seven percent.”⁶⁴ The bill easily passed the House in 2018 on a vote of 225-189.⁶⁵ Examining the debate over the bill provides an example of the

60. See 2008 Columbia Basin Fish Accords: Memorandum of Agreement Between the Three Treaty Tribes and FCRPS Action Agencies, 1, 10–12, 17, 19, B-1 (2008), <https://perma.cc/VY97-637N>; William McCall, *BPA, Tribes Reach \$900 Million Deal to Help Columbia River Salmon*, SEATTLE TIMES, Apr. 7, 2008, <https://perma.cc/HZY4-4Z9L>; see *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv. (NWF I)*, 254 F. Supp. 2d 1196 (D. Or. 2003); see also *Nat'l Wildlife*, 886 F.3d at 814.

61. See McCall, *supra* note 60.

62. 115 Cong. Rec. 3543 (Apr. 25, 2018) (reprinting H.R. 3144).

63. The bill's co-sponsors included a sole Democrat (Cong. Kurt Schrader, D-Or) but was opposed by both the Democratic Oregon and Washington governors. See 115 Cong. Rec. 3546–47 (Apr. 25, 2018).

64. 115 Cong. Rec. 3543–44 (Apr. 25, 2018) (statement of Mrs. McMorris-Rodgers (R-Wash.), the chief sponsor of H.R. 3144).

65. See 115 Cong. Rec. 3560 (Apr. 25, 2018) (recording the vote).

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role that misinformation can play in the making of public policy.

Supporters of the bill not only cited the high costs of spill, which they termed as a salmon “experiment,” they portrayed the Columbia Basin salmon problem as one largely solved, claiming that nearly 600,000 fall chinook salmon would return in 2018, allegedly “many times higher than when they were first listed under the [ESA].”⁶⁶ This claim ignored the fact that the ESA-listed fall chinook is only the naturally spawning population, while the 600,000 claim aggregated returns to both the Columbia and Snake Rivers,⁶⁷ and was an estimate of mostly hatchery fish. Hatchery fish are not equivalent to wild fish and are not protected by the ESA.⁶⁸ Claims that the Columbia Basin has entered an era of salmon abundance are wholly based on hatchery fish.⁶⁹

66. 115 Cong. Rec. 3543 (Apr. 25, 2018) (statement of Mrs. McMorris-Rodgers, *supra* note 64).

67. Aggregating returns of salmon throughout the basin is misleading because it masks weak runs that are the focus of the ESA listings.

68. See, e.g., *Restraints on the Art of Deception*, *supra* note 3, at 69–82.

69. George Plaven, *Columbia Basin Breaking Records for Returning Fall Chinook Salmon*, SEATTLE TIMES, Nov. 29, 2015, <https://www.seattletimes.com/seattle-news/columbia-basin-breaking-records-for-returning-fall-chinook-salmon/> [<https://perma.cc/DZ8Q-MATX>] (“The Columbia Basin’s 2015 salmon season is the second-strongest year since the federal dams were built nearly 80 years ago”); COURTLAND L. SMITH, SALMON ABUNDANCE AND DIVERSITY IN OREGON: ARE WE MAKING PROGRESS?, OR. SEA GRANT (2014), https://oregonstate.edu/instruct/anth/smith/SalmonAbundanceandDiversity_s14002.pdf [<https://perma.cc/GMDV-U3D3>], (“[In] 2013, an estimated 80 percent of the returning Columbia Basin adult salmon were born in hatcheries.”). Property rights opponents of wild salmon restoration once convinced a federal judge that the federal effort to protect only naturally spawning fish was inconsistent with the ESA, but that decision did not survive ensuing decisions. See *Restraints on the Art of Deception*, *supra* note 3, at 69–70, 74–80.

Belying claims of salmon abundance is the tragic condition of Southern Resident Killer Whales (Orcas), which are in danger of extinction due to a lack of food sources, principally chinook salmon from the Columbia River. Orcas, which feed near the mouth of the Columbia River in winter along their annual migration from southeast Alaska to Monterey, California, do not distinguish between wild and hatchery salmon. But low salmon abundance in recent years has resulted in low reproductive success, and the population is now down to fewer than 80 individual whales. Many scientists have concluded that best chance for recovery lies in removal of the LSR dams and a restoration of more natural migration conditions in the Snake River, historically the largest supplier of salmon in the Columbia Basin. See Rocky Barker & Brittany Peterson, *Fate of Pacific Northwest Orcas Tied to Having Enough Columbia River Salmon*, IDAHO STATESMAN (July 9, 2017),

<https://www.idahostatesman.com/news/local/environment/article160452294.html> [<https://perma.cc/HM4Q-SEPU>]; see Steve Mashuda, *Tragic Orca Deaths Underscore Urgent Need to Restore Salmon Runs*, EARTHJUSTICE (June 18, 2018), <https://earthjustice.org/blog/2016-november/tragic-orca-deaths-underscore-urgent-need-to-restore-salmon-runs> [<https://perma.cc/2DLP-CMQQ>]; see Monika Wieland, *Orcas and Salmon: Making the Connection*, WILD ORCA (July 25, 2018), <http://www.wildorca.org/orcas-salmon/> [<https://perma.cc/H6CF-YXXN>]. NMFS has acknowledged that increasing salmon abundance would be an important component of the species' recovery but has claimed that since the orcas prey on many different salmon stocks at different times during their life cycle, no one salmon recovery action—like LSR removal—would recovery orcas by itself. *Southern Resident Killer Whales and Snake River Dams*, NOAA Fisheries Serv. (2016), http://www.westcoast.fisheries.noaa.gov/publications/protected_species/marine_mammals/killer_whales/killerwhales_snakeriverdams.pdf [<https://perma.cc/L2Y4-V6FP>].

A particularly heartbreaking story was the July 2018 account of a listed Southern Resident Orca who gave birth to a calf only to have it die within a half-hour. The mother proceeded to carry the body for at least 17 days and over 1000 miles in apparent grief over the loss. See Lynda V. Mapes, *After 17 Days and 1,000 Miles, Orca Mother Tahlequah Drops Dead Calf, Frolics with Pod*, SEATTLE TIMES, Aug. 13, 2018,

<https://www.seattletimes.com/seattle-news/environment/after-17-days-and-1000-miles-mother-orca-tahlequah-drops-her-dead-calf/> [<https://perma.cc/5KV4-HZRM>]. This was not an isolated incident, as seven species of whales and dolphins in three oceans have been documented carrying deceased young. Although any loss of the endangered Orcas, given their dwindling numbers, is tragic, the real story behind the plight of the Southern Residents is that of 11 young whales born to one family in 2014, five have died within four years, and another appears close to starving. See Lynda V. Mapes, *Orca Mother Carries Dead Calf for Sixth Day as Family Stays Close By*, SEATTLE TIMES, July 29, 2018, <https://www.seattletimes.com/seattle-news/environment/orca-mother-carries-dead-calf-for-fifth-day-her-entire-family-is-also-staying-close-by/> [<https://perma.cc/E5GX-VHJZ>] (noting that the Orcas face at least three considerable challenges: 1) vessel noise, which interrupts their foraging; 2) toxins, which are released into their bloodstream and calves' milk, especially when the whales are hungry; and 3) lack of food, especially chinook salmon); see also Jamie Hale, *Heartache in the San Juan Islands: Locals Grieve as Resident Orcas Face Extinction*, OREGONIAN, Sept. 14, 2018, <https://www.oregonlive.com/expo/life-and-culture/erry-2018/09/86bb6304791189/heartache-in-the-san-juan-isla.html> [<https://perma.cc/4HLK-9N5B>] (vivid portrayal of the edge of extinction for the Southern Residents and the effect of their plight on local populations).

On November 16, 2018, Washington Governor Jay Inslee's Southern Resident Killer Whale Recovery Task Force made some 36 recommendations to begin to recover the depleted Orcas, including increasing runs of Columbia River chinook salmon to feed the whales by increasing spills at federal dams to promote fish passage and establishing a "stakeholder process" to consider removing the four LSR dams. Southern Resident Orca Task Force, *Report and Recommendations* (Nov. 16, 2018), https://www.governor.wa.gov/sites/default/files/OrcaTaskForce_reportandrecommendations_11.16.18.pdf?utm_medium=email&utm_source=gov. Also, on December 18, 2018, the Center for Biological Diversity and Wild Fish Conservancy notified the Trump administration they would file suit charging that the government's mismanagement of West Coast salmon fisheries violated the Endangered Species Act by harming the listed Southern Residents. Center for Biological Diversity, *Press*

The opponents of the spill decision also claimed that they were supporting a scientific salmon plan that the unelected federal judge upended via “judicial overreach”⁷⁰ and maintained that “Federal fisheries scientists believe that [judicial prescribed] spill measures will provide little or no benefits to juvenile salmon or returning adult salmon.”⁷¹ The opponents characterized Judge Simon’s decision as a consequence of “abusive litigation” and claimed that overturning the judge’s decision was necessary “for the sake of salmon runs.”⁷² The sole regional Democrat supporting the bill, Kurt Schrader (D-Or.) alleged that fully one-third of “our power bills in the Northwest is devoted to fish recovery,” while “sea lions will likely account for 20 percent or more of adult salmon loss in the Columbia Basin system.”⁷³

Opposition to H.R. 3144 was widespread. Some 140 businesses and business associations representing commercial and recreational salmon fishermen and related businesses opposed the bill.⁷⁴ In addition to the states of Oregon and

Release (Dec. 18, 2018), https://www.biologicaldiversity.org/news/press_releases/2018/southern-resident-killer-whale-12-18-2018.php [<https://perma.cc/2NDE-ADN2>].

The viability of the Southern Resident population was a prominent factor in a recent decision by Canada’s Federal Court of Appeal overturning approval of an expansion of the TransMountain pipeline transporting Albertan tar sands to the British Columbia coast. The court found that an environmental report on the expansion that concluded that it would have no significant effects on the marine environment, particularly the Southern Residents, was unreasonable. *Tsleil-Waututh Nation v. Attorney General of Canada*, [2018] F.C.R. 153 (Can.), <https://decisions.fccaf.gc.ca/fccaf/decisions/en/item/343511/index.do?r=AAAAAQAIU3F1YW1pc2gB> (also invalidating the expansion due to inadequate consultation with First Nations).

70. See *Providing for the Operations of the Federal Columbia River Power System*, 164 Cong. Rec. H3542-01, H3544 (Apr. 25, 2018) (statement of Mrs. McMorris-Rodgers).

71. *Id.* (statement of Ms. Herrida Beutler (R-Wash.)).

72. *Id.*

73. *Id.* at H3546 (Apr. 25, 2018) (statement of Cong. Schrader, who also claimed that the “entire Northwest delegation, Republican and Democrat, worked together on this” without explaining why he was the only Democratic member of the Northwest delegation to support the bill, and without explaining the opposition of the governors of Oregon and Washington, see *supra* note 63).

74. 164 Cong. Rec. 3547–48 (Apr. 25, 2018). Many more opponents signed on to a related statement that claimed “H.R. 3144 is based on misinformation, fails to recognize the important role wild salmon . . . play for Northwest communities and ecosystems, and would severely undermine ongoing and much-needed protection

Washington,⁷⁵ the Nez Perce Tribe also vigorously opposed the bill.⁷⁶ None of this opposition was reflected in the statements of

efforts.” *Id.* at H3548 (statement of Tom France, Pacific Regional Executive Director, National Wildlife Federation, Missoula, Montana; Giulia Good Stefani, Staff Attorney for the Marine Mammal Protection Project, National Resources Defense Council, Mosier, Oregon; Robb Krehbiel, Washington State Representative, Defenders of Wildlife, Seattle, Washington; Wendy Gerlitz, Policy Director, NW Energy Coalition, Portland, Oregon; Ben Enticknap, Pacific Campaign Manager & Senior Scientist, Oceana, Portland, Oregon; Bill Arthur, Columbia-Snake River Salmon Caucus Chair, Sierra Club, Seattle, Washington; Julian Matthews, Enrolled Nez Perce Tribal member and Treasurer, Nimipuu Protecting the Environment, Pullman, Washington; Liz Hamilton, Executive Director, Northwest Sportfishing Industry Association, Oregon City, Oregon; Jeremy Brown, President Coastal Trollers Association, Bellingham, Washington; Thomas O’Keefe, Ph.D, Pacific Northwest Stewardship Director, American Whitewater, Seattle, Washington; Wendy McDermott, Rivers of Puget Sound-Columbia Basin Director, American Rivers, Bellingham, Washington; Noah Oppenheim, Executive Director, Pacific Coast Federation of Fishermen’s Associations, San Francisco, California. Howard Garrett and Susan Berta, Directors, Orca Network, Whidbey Island, Washington State; Aaron Tam, Pacific Northwest Organizer, Endangered Species Coalition, Washington, D.C.; Joseph Bogaard, executive director, Save Our wild Salmon Coalition, Seattle, Washington; Kevin Lewis, Executive Director, Idaho Rivers United, Boise, Idaho; Justin Hayes, Program Director, Idaho Conservation League, Boise, Idaho; Rich Simms, President, Wild Steelhead Coalition, Seattle, Washington; Greg Haller, Conservation Director, Pacific Rivers, Portland, Oregon; Mike Petersen, Executive Director, The Lands Council, Spokane, Washington; Tom VanderPlaat, President, Association of Northwest Steelheaders, Milwaukie, Oregon, John DeVoe, Executive Director, WaterWatch of Oregon, Portland Oregon; Ed Chaney, Director, Northwest Resource Information Center, Eagle, Idaho; Brian Brooks, Executive Director, Idaho Wildlife Federation, Boise, Idaho. Colleen Weiler, Rekos Fellow for Orca Conservation, Whale and Dolphin Conservation, Corvallis, Oregon; Trish Rolfe, Executive Director, Center for Environmental Law & Policy, Seattle, Washington; Brett VandenHeuvel, Executive Director, Columbia Riverkeeper, Hood River, Oregon; Grant Putnam, President, Northwest Guides and Anglers Association, Clackamas, Oregon; Andrea Matzke, Executive Director, Wild Washington Rivers, Index, Washington; Miyoko Sakashita, Oceans Director, Senior Counsel, Center for Biological Diversity, Oakland, California; Bert Bowler, Director, Snake River Salmon Solutions, Boise, Idaho; Gary MacFarlane, Ecosystem Defense Director, Friends of the Clearwater, Moscow, Idaho; Bob Sallinger, Conservation Director, Audubon Society of Portland, Portland, Oregon; Michael Wells, President, Clearwater-Snake Rivers Trout Unlimited, Moscow, Idaho; Darilyn Parry Brown, Greater Hells Canyon Council, La Grande, Oregon; Chris Wilke, Executive Director, Puget Soundkeeper Alliance, Seattle, WA; Whitney Neugebauer, Director, Whale Scout, Bothell, Washington.)

75. *See supra* note 63.

76. 164 Cong. Rec. 3548 (Apr. 25, 2018). The other treaty tribes with off-reservation treaty rights to salmon on the Columbia River—the tribes of the Umatilla, Yakama, and Warm Springs reservations—could not object due to the Columbia River Accords, *supra* note 60, because they reached agreements under which BPA paid for mostly habitat restoration efforts in return for their support for the 2008 BiOp for 10 years. *See Still Crying Out*, *supra* note 3, at 290–91 nn. 8–10, 302.

those supporting the bill.

The partisan nature of the passage of H.R. 3144 is an ominous development for efforts to restore Snake River salmon runs. Despite the rosy assurances of the supporters of H.R. 3144, the Snake River runs are in dire straits. The ninety-seven percent survival figure cited above,⁷⁷ for example, ignores the fact that in 2016 only twelve percent of wild juvenile sockeye salmon (the most imperiled of the listed species) survived the federal dams, and that further losses occur below the dams in the lower river from delayed mortality due to the adverse cumulative effects of dam passage and from avian predation.⁷⁸ Survival rates are not improving either—NMFS has reported no significant improvement over the past two decades, despite large-scale expenditures on so-called fish passage improvements.⁷⁹

Snake River salmon runs once produced half of the adult returns in the Columbia Basin, but in 2015 accounted for just fifteen percent of chinook passing Bonneville Dam; Snake River coho only 3.5 percent; and Snake River sockeye just 0.2 percent.⁸⁰ Yet Congresswoman McMorris-Rodgers, the chief sponsor of H.R. 3144, claimed that adult returns in 2018 would be “many times higher” than when listed under the ESA, falsely suggesting that listed salmon have recovered, apparently equating hatchery returns with wild stock returns.⁸¹

The best measure of recovery of the listed species are smolt-

77. See *supra* text accompanying note 65. The 97% figure lumps salmon passage at all Columbia Basin dams; it does not reflect juvenile salmon survival at the LSR dams.

78. Letter from Linwood Laughy to Washington and Oregon’s House of Representatives, Letter: A Boondoggle of a Bill (LSRD facts) (July 12, 2017), <https://srkwcsi.org/2017/07/14/letter-a-boondoggle-of-a-bill-lsrd-facts/> [<https://perma.cc/T8V3-Z9WH>]. The survival rate in 2015 for Snake River sockeye was 32%. *Id.* Delayed mortality is mortality salmon smolts suffer in the lower river below the dams, presumably due the cumulative stress they suffered passing the upriver dams. See John W. Ferguson et al., *Evidence of Delayed Mortality on Juvenile Pacific Salmon Passing Through Turbines at Columbia River Dams*, 135 *Transactions Am. Fisheries Soc’y* 139 (2005), <https://afspubs.onlinelibrary.wiley.com/doi/full/10.1577/T05-080.1> [<https://perma.cc/HWM4-KKMW>].

79. Laughy, *supra* note 78 (reporting expenditures of \$700 million at the LSR dams).

80. Laughy, *supra* note 78 (reporting similar figures for 2014: 14% of chinook at Bonneville Dam were Snake River origin; 6% of coho; and .5% of sockeye).

81. See *supra* note 69 and accompanying text.

to-adult return (SAR) ratios.⁸² A ratio of one percent is necessary for survival and two to six percent is necessary for recovery. Between 1993 and 2013 the SAR for Snake River wild chinook was just .89 percent.⁸³ No listed Snake River salmon or steelhead species is on the road to recovery.⁸⁴

Passage of H.R. 3144 was met with chagrin by salmon advocates. Idaho Rivers United protested that the bill reflected a failure to recognize and protect Idaho's salmon legacy, labeling it "The Salmon Extinction Act."⁸⁵ A board member of Wild Steelhead Coalition decried the bill as an effort to lock in a plan of proven failure while preventing even the study of effective recovery plans.⁸⁶

H.R. 3144 is now before the U.S. Senate. Senator Patty Murray has voiced opposition to the bill more than once,⁸⁷ and its future remains quite uncertain as this Article goes to press in 2019. That uncertainty, however, should not deflect attention from an assessment of the real costs and benefits of maintaining the LSR dams.

82. See NOAA Fisheries, *Adult Upstream Survival*, https://www.westcoast.fisheries.noaa.gov/fish_passage/fcrps_opinion/adult_upstream_survival.html [<https://perma.cc/9GHF-K2WQ>]. SAR measures the ratio of juvenile fish traveling out to the ocean to the number of adults counted at the last dam they passed before spawning. *Id.*

83. Laughy, *supra* note 78.

84. *See id.*

85. *U.S. House Passes HR 3144*, IDAHO RIVERS UNITED (Apr. 25, 2018), <https://www.idahorivers.org/newsroom/2018/4/24/us-house-passes-hr-3144> [<https://perma.cc/P6JK-R5LL>] (quoting Executive Director Kevin Lewis: "Salmon need healthier rivers and safer passage past dams, not new barriers to survival and recovery. We'll be looking to the Senate now for help stopping this bill that not only upsets the balance of power in our government, but puts an Idaho legacy unnecessarily at risk.").

86. Josh Mills, *Bill Would Rubber-Stamp Salmon Failure*, SPOKESMAN-REVIEW, Aug. 12, 2017, <http://www.spokesman.com/stories/2017/aug/12/josh-mills-bill-would-rubber-stamp-salmon-failure/> [<https://perma.cc/A8GY-TYZN>] (noting that over the past 20 years the value of the LSR dams has declined "dramatically, with river barging down 70 percent and energy produced by the dams worth much less with the rise in renewables and efficiency.").

87. Letter from Senator Patty Murray to Speaker of the House Paul Ryan et al., *Senator Murray Reaffirms Strong Opposition to H.R. 3144* (Apr. 25, 2018), <https://www.murray.senate.gov/public/index.cfm/2018/4/senator-murray-reaffirms-strong-opposition-to-h-r-3144> [<https://perma.cc/9D9C-QNUN>].

III. THE ECONOMICS OF THE LOWER SNAKE RIVER DAMS

Congress authorized the LSR dams in 1945 largely to provide work for returning servicemen in the post-war economy, despite the fact that the U.S. Army Corps of Engineers seven years earlier had reported that the benefits of creating a slack-water navigation channel between Lewiston, Idaho and the ocean were just fifteen cents for every federal dollar of cost.⁸⁸ It took three decades for the Corps to complete the navigation channel, as the last of the four LSR dams—none of which were ever specifically authorized by Congress⁸⁹—became operational in 1975, roughly a decade-and-a-half before the ESA listings for Snake River salmon.⁹⁰

The LSR dams never produced much hydropower—only about four percent of the Northwest’s electricity—half of which is generated during the high-runoff months in the spring when demand for power is at its lowest and electric prices are down.⁹¹ As run-of-the river dams, the LSR dams provide no flood control. In fact, Lower Granite Dam increases flood risk to Lewiston, Idaho as a result of the roughly two million cubic yards of sediment deposited behind the dam each year.⁹² Regular dredging, paid for through federal subsidies, is required.⁹³

88. See SACRIFICING THE SALMON, *supra* note 3, at 96–97; see also Michael C. Blumm, *Hydropower vs. Salmon: The Struggle of the Pacific Northwest’s Anadromous Fish Resources for a Peaceful Coexistence with the Federal Columbia River Power System*, 11 ENVTL. L. 211, 230 (1981) (citing H.R. Doc. No. 75-704, 2d Sess. (1938)).

89. The 1945 Rivers and Harbors Act simply authorized “such dams are necessary” as determined by the Army Corps of Engineers. See SACRIFICING THE SALMON, *supra* note 3, at 97.

90. See, e.g., SACRIFICING THE SALMON, *supra* note 3, at 175 (discussing the listings in 1991 and 1992).

91. Anthony Jones & Linwood Laughy, *Bonneville Power Administration and the Lower Snake River Dams: The Folly of Conventional Wisdom*, ROCKY MOUNTAIN ECONOMETRICS, June 2018, <http://www.rmecon.com/examples/BPA%20&%20LSRDs%206-5-18.pdf> [<https://perma.cc/5BHR-RWRM>]. The limited hydropower potential of the development of the Lower Snake was reflected in the Corps’ low cost-benefit ratio in 1938. See SACRIFICING THE SALMON, *supra* note 3, at 96–97 and accompanying text.

92. The flood risk to Lewiston is well captured in STEVEN HAWLEY, *RECOVERING A LOST RIVER: REMOVING DAMS, REWILDING SALMON, REVITALIZING COMMUNITIES*, at 101–33 (2011).

93. *Id.*

The LSR dams did create a port in Lewiston, some 465 river miles from the Pacific Ocean, the farthest inland port on the West Coast. The navigation channel produced cheap transport, but barge transport—mostly of agriculture commodities (largely grain) through the reservoirs created by the dams—is down by half over the last twenty years.⁹⁴ There are ready rail and truck alternatives to barging from Lewiston, so even if the LSR navigation channel were eliminated, barging would remain available on the Columbia River at Pasco, Washington, just 130 miles away.

The affordability of breaching the LSR dams has been well known for some time. In the late 1990s, a half-dozen studies, including one by the Northwest Power Planning Council, concluded that drawing the Lower Snake down to natural river flows was an affordable option.⁹⁵ One study that included estimated economic benefits of natural river flows concluded that the region would save \$87 million annually.⁹⁶ Another found that the region's net benefit from breaching would be \$183 million.⁹⁷

Recent studies confirm these two-decade old predictions. A 2018 Northwest Energy Coalition-funded study by Energy Strategies found that the power produced by the LSR dams was replaceable by a balanced portfolio of clean energy sources (solar, wind, energy-efficiency, demand-response, and storage) with no reliance on additional gas-fired generation.⁹⁸ The

94. Laughy, *supra* note 78.

95. See Michael C. Blumm et al., *Saving Snake River Water and Salmon Simultaneously: The Biological, Economic, and Legal Case for Breaching the Lower Snake River Dams, Lowering John Day Reservoir, and Restoring Natural River Flows*, 28 ENVTL. L. 997, 1023–31 (1998) [hereinafter *The Case for Breaching the LSR Dams*] (summarizing six studies, including NORTHWEST POWER AND CONSERVATION COUNCIL, ANALYSIS OF THE BONNEVILLE POWER ADMINISTRATION'S POTENTIAL FUTURE COSTS AND REVENUES (1998)).

96. *Id.*

97. *Id.*

98. Northwest Energy Coalition, *The Lower Snake River Dams Power Replacement Study: Fact Sheet* (Apr. 4, 2018), <https://nwenergy.org/wp-content/uploads/2018/04/LSRD-Study-Fact-Sheet.pdf> [https://perma.cc/43BF-ZY5U]. The Northwest Energy Coalition is an alliance of about 100 environmental, civic, and human service organizations, progressive utilities, and businesses in Oregon, Washington, Idaho, Montana and British Columbia which promotes development of renewable energy and energy conservation, consumer protection, low-income energy assistance, and fish and wildlife restoration on the Columbia and Snake rivers.

study concluded that the cost of replacing the LSR dams with clean energy—with little or no increase in greenhouse gas emissions—was small in comparison to the cost of operating the regional power system, amounting to not much more than an additional dollar per month to the average residential bill.⁹⁹ The results clearly showed that the LSR dams can be removed and replaced with clean and renewable energy sources. But the study did not attempt to identify an optimal clean energy solution, instead predicting that “additional efficiencies and savings will likely be found if future costs for renewable energy sources and storage turn out to be lower than the comparatively conservative figures” that the report employed.¹⁰⁰

The Northwest Energy Coalition study assumed that replacement power was needed to compensate for the loss of power produced by the LSR dams. That assumption has been called into question by other studies showing that the Northwest is awash in power, and that the LSR hydropower is nearly completely surplus to the region’s needs. For example, between 2007 and 2018, BPA needed LSR power to meet its contractual obligations for only two hours, both in 2009.¹⁰¹ Moreover, in recent years, wind, natural gas, and solar power have exceeded the LSR hydropower six times over.¹⁰²

Surplus power, including LSR dam-generated power, is often sold in the spring for little or nothing. In fact, a BPA

Energy Strategies is an independent consulting firm based in Salt Lake, Utah, whose clients include power producers, transmission developers, utilities, government agencies, non-profit organizations, and large energy users throughout North America. See Energy Strategies, OUR STORY, <https://www.energystrat.com/> [<https://perma.cc/B99W-L5P4>] (last visited Nov. 25, 2018).

99. Northwest Energy Coalition, *supra* note 98.

100. Northwest Energy Coalition, *The Lower Snake River Dams Power Replacement Study* (Apr. 2018), <https://nwenergy.org/wp-content/uploads/2018/04/LSRDS-study-4-page-overview.pdf> [<https://perma.cc/9RM3-G3W2>]. The study noted that a full study of dam removal would have to address the costs of decommissioning the dams but also factor in the cost savings from dam removal, including costs saved on dam maintenance and the economic benefits of healthy salmon populations in a restored river which a previous Northwest Energy Coalition student found would amount to a total net savings. *Id.*

101. Jones & Laughy, *supra* note 91, at 4 (noting that even during those hours “BPA’s thermal plants could have been brought on line to fill the brief need for additional power.”).

102. *Id.*

“oversupply management protocol” requires the agency to shut down other sources of power and reimburse those sources for lost revenues. Even after other sources are curtailed, BPA still has more power than it can market, so the agency often engages in negative pricing, even sometimes paying power wholesalers outside the Northwest to take surplus power off its hands—meaning that BPA’s preference customers often subsidize power shipped to California.¹⁰³ According to a recent study, had the LSR dams been taken out in 2008, BPA could have met all its customers’ demands while saving “at least \$100 million per year.”¹⁰⁴ At a time when ninety-nine percent of Snake River sockeye perish before reaching their spawning grounds,¹⁰⁵ and the estimated cost of rehabilitating twenty-two power turbines at the four LSR dams is over \$1 billion, BPA would best serve both its customers and the Snake River salmon runs by supporting removal of the LSR dams.

It is no secret that BPA faces a financial cliff.¹⁰⁶ Its power sales have fallen due to conservation, increased efficiency, and the investments its customer have made in solar and wind power.¹⁰⁷ Cheap natural gas and California’s ongoing commitments to renewable energy have also dampened demand. The BPA Administrator has admitted that the agency is in dire straits: “We’ve taken huge hits in the secondary revenues market just like every other hydro provider up here, with cheap gas, low load growth, and the oversupply

103. *Id.* at 3–4, 6. BPA’s preference customers are publicly-owned utilities and electricity cooperatives in the Northwest who have priority access to BPA power, and are eligible to purchase power at a priority rate for most of their loads. 16 U.S.C. § 832c.

104. Jones & Laughy, *supra* note 91, at 6.

105. See Laughy, *supra* note 78 (using 2015 figures).

106. See, e.g., Eric Barker, *BPA at a Crossroads*, LEWISTON TRIBUNE, July 8, 2018, https://lmtribune.com/northwest/bpa-at-a-crossroads/article_75a029df-95bd-52c6-861e-1fbfb822739.html [<https://perma.cc/CWR5-RWDX>]; Carol Winkel, *BPA Heading for a “Financial Cliff”*, NORTHWEST POWER AND CONSERVATION COUNCIL (Feb. 15, 2018), <https://www.nwccouncil.org/news/bpa-heading-financial-cliff> [<https://perma.cc/FMC9-HJAP>]; Robert McCullough, *UPDATING BONNEVILLE’S STRATEGIC PLAN*, (Nov. 21, 2017), https://d3n8a8pro7vhmx.cloudfront.net/oregonpsrorg/pages/1220/attachments/original/1511978571/20171121_Updating_Bonneville’s_Strategic_Plan_-_Final.pdf?1511978571 (“BPA face[s] a financial cliff in 2028 when its power rates may not be attractive enough for its long-term customers to renew 20-year contracts”).

107. See *Brink of Extinction*, *supra* note 6, at 2.

conditions. It's been a bloodbath for folks in the wholesale market. I'm not in panic mode, but I am in a very, very significant sense of urgency mode.”¹⁰⁸ BPA's response to these ominous economic conditions has been to dissipate its reserve account and increase rates by thirty percent over eight years.¹⁰⁹ Going forward, BPA's plan is to sell more surplus electricity, but it is hardly clear how more sales in a saturated market—with falling demand and prices—will solve the agency's financial problems.¹¹⁰

A promising solution would be to eliminate high cost/low value assets like the LSR dams because the dams produce surplus power for which there is little or no demand, particularly in the spring.¹¹¹ Yet BPA has invoked the court-ordered EIS on the operation of the system, not due until 2021, as a reason not to take action until then, perhaps hoping that Congress will enact H.R. 3144,¹¹² thereby keeping the uneconomical projects in operation.¹¹³ Unless Congress also adds money to balance BPA's books, however, enacting H.R. 3144 will only make a bad economic situation worse—if Congress does enact the bill, it would amount to federal taxpayers subsidizing the maintenance of uneconomical projects that damage listed endangered species.

IV. CONCLUSION

The struggle over the LSR dams has been a long one—and it is far from over. It took eighteen years to obtain a court-ordered, biologically-justified spill level, and within a week of the Ninth Circuit's decision upholding that decision, the U.S. House of Representatives took action to override it.¹¹⁴ That

108. *Brink of Extinction*, *supra* note 6, at 1 (quoting Elliott Mainzer, BPA Administrator, Mar. 14, 2018).

109. *Brink of Extinction*, *supra* note 6, at 2 (observing that beginning in 2008 BPA began draining what was a \$917 million reserve account to around \$5 million in 2018).

110. *Brink of Extinction*, *supra* note 6, at 4 (suggesting that BPA's strategy “fails to meet the test of a sound business model”).

111. Jones & Laughy, *supra* note 91, at 2 (noting that over 50% of the LSR dams is produced during the spring runoff, when prices are lowest).

112. *See supra* § II.

113. *See Brink of Extinction*, *supra* note 6, at 1 (citing BPA's 2018–2023 *Strategic Plan*).

114. *See supra* note 56 and accompanying text.

action may epitomize the divide between politics and science in the Pacific salmon wars because the bill passed the House with virtually no scientific support for reducing spill. Even if the bill is unlikely to pass the Senate, given Senator Murray's opposition,¹¹⁵ its quick passage in the House reflects the current widespread hostility to science in Congress.¹¹⁶

The future of the LSR dams remains cloudy. The fact that they are scientifically and economically unjustified does not mean that Congress, which approved them, however indirectly,¹¹⁷ must agree with the weight of scientific and economic opinion. Dams that have been removed to date have all been non-federal dams, subject to additional regulatory requirements that federal dams are not.¹¹⁸ Except for the Elwah Dams, which were in or affected a national park,¹¹⁹ Congress has yet to agree to remove a federal dam.

Realistically, the unnecessary carnage inflicted on Snake River salmon by the LSR dams will continue until the congressional delegations of Oregon, Washington, and Idaho understand that the economics of maintaining the dams makes no sense for those they represent.¹²⁰ Removal of the four LSR

115. See *supra* note 857 and accompanying text.

116. There also seems to be a widespread opposition not only to science but also to law among rural Westerners, many of whom seem not to recognize clear federal authority to manage federal public lands. See Michael C. Blumm & Olivier Jamin, *The Property Clause and Its Discontents: Lessons From the Malheur Occupation*, 43 *ECOLOGICAL L.Q.* 781 (2017).

117. See *supra* notes 9, 78 and accompanying text.

118. In particular, non-federal dams have only limited license terms under the Federal Power Act and must be periodically relicensed, which prompts a reexamination of the project's effects on the current environment. Many relicensing proceedings have led to conditions that the licensee install fish passage facilities, which have many licensees to agree to remove their dams. See *generally* Blumm & Erickson, *supra* note 12.

119. See Blumm & Erickson, *supra* note 12, at 1049–58; Elwha River Ecosystem and Fisheries Restoration Act, S. 2527, 102d Cong. (1992).

120. As congressionally authorized dams, the LSR dams will require congressional approval to remove them. Congress rarely endorses measures like removal of the LSR dam removal which are opposed by local congressional delegations. The fact that the congressional delegations of Idaho and Washington seem unlikely at present to support LSR dam removal does not mean that efforts to convince Congress of the economic wisdom of dam removal will be in vain. Abolitionists never constituted a majority of the American antebellum public, yet slavery was abolished. Same-sex marriage was also a minority perspective, and yet it is now constitutionally entrenched.

dams will open the door to a thriving salmon-based economy in the eastern Columbia Basin that will produce a more widespread and enduring economy than the existing—and declining—barge-centered economy that requires continuous federal subsidies to persist.¹²¹ It may be that widespread publicity of federal subsidies is necessary for the public to convince Congress to act. If so, salmon advocates need to become more vocal about the amount of federal money necessary to maintain the current dysfunctional system.¹²²

121. *Port of Lewiston Notches Third Straight Year of Financial Losses*, IDAHO RIVERS UNITED (Feb. 22, 2017), <https://www.idahorivers.org/newsroom/2017/2/17/port-of-lewiston> (“Over the past 11 years the U.S. Army Corps of Engineers spent \$33 million on Lower Granite sediment management planning and dredging the Snake and Clearwater confluence and two miles up the Clearwater River. With no indication container shipping will ever return to Lewiston, an estimated 80 percent of this \$33 million principally benefits a single private corporation that ships grain from its own property over its own docks. Not included here is the \$10-\$12 million that taxpayers spend each year to operate the locks through which this grain passes or the many more millions spent on frequent major rehabilitation of the locks and navigation channel.”)

122. The federal subsidies amount to at least \$13-15 million annually, according to the figures cited *supra* note 121.