

SALMON AND THE CLEAN WATER ACT: AN UNFINISHED AGENDA

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The modern Clean Water Act (CWA)¹ has substantially rehabilitated the nation's waters during the near half-century since its enactment. But providing water quality sufficient to restore the Columbia River Basin's Endangered Species Act-listed² salmon runs is not yet among the Act's accomplishments. Part of this failure is due to an early decision of the U.S. Environmental Protection Agency (EPA) not to consider the dams that transformed the free-flowing Columbia and Snake Rivers into a series of lakes to be point source dischargers subject to permit requirements, relieving dam operators from close oversight.³

The lack of CWA permit requirements for dams left the statute's water quality standards as the primary mechanism to counteract the warming effects of dam impoundments on Columbia Basin salmon.⁴ For decades, the ambient standards system took a back seat to the more straightforward enforcement available through technology-based controls imposed on point sources—controls insufficient to contain dam-induced warming river temperatures exacerbated by climate change.⁵

Environmental plaintiffs in several recent cases, however, have relied on both the Act's permit requirements and water quality standards in a promising effort to rein in the warming effects of dam impoundments. In a 2019 case in the U.S. Court of Appeals for the Ninth Circuit, *Columbia Riverkeeper v. Wheeler*,⁶ environmental plaintiffs prevailed on a theory of "constructive submission," where when a state fails to act, EPA must establish a total maximum daily load (TMDL) for a water body failing to meet applicable

ambient water quality standards.⁷ EPA has since produced a temperature TMDL for the Columbia and Snake Rivers.⁸

In another line of cases, Columbia Riverkeeper won settlements under which federal dam operators agreed to apply for CWA permits for hundreds of gallons of oils and lubricants leaked and discharged into Columbia Basin waters.⁹ Because EPA will issue permits for the Washington State dams, it must first obtain state certifications as required under §401 of the Act, and Washington conditioned those certifications on the dams' compliance with EPA's forthcoming temperature TMDL.¹⁰ If the certifications survive legal challenges brought by the federal government, dam operators may finally be required to implement measures that could meaningfully mitigate the warming river temperatures that pose an existential threat to endangered salmon.¹¹

Environmentalists have also begun to target federally managed hatcheries for pollutant discharges that violate the Act's permit requirements. In *Center for Environmental Law & Policy v. U.S. Fish & Wildlife Service*,¹² a 2017 case, the Western District of Washington issued an injunction requiring the U.S. Fish and Wildlife Service (FWS) to apply for and obtain a CWA permit.¹³ That permit incorporates allocations under a state-developed TMDL—including temperature limits on discharges.

I. Exempting Dams From Permit Requirements

Hydroelectric dams produce significant adverse water quality effects harmful to aquatic life. They release water low in dissolved oxygen and high in dissolved metals, temperature, and supersaturated gases (creating gas bubble disease in fish).¹⁴ They also trap sediments and alter fundamental biological processes downriver.

Authors' Note: This Comment is adapted from a chapter in Prof. Blumm's forthcoming book, Salmon Law in the Pacific Northwest Environment: From the Indian Treaties to the Endangered Species Act and Beyond. We are grateful to Miles Johnson for helpful comments on a draft.

1. 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607.
2. 16 U.S.C. §§1531-1544, ELR STAT. ESA §§2-18.
3. See *infra* Part I.
4. See *infra* Part II.
5. See *infra* Parts II-III.
6. 944 F.3d 1204, 1206, 50 ELR 20012 (9th Cir. 2019).

7. See *infra* Part IV.
8. See *id.*
9. See *infra* Part V.
10. See *infra* Parts V-VI.
11. See *infra* Part VI.
12. 228 F. Supp. 3d 1152 (E.D. Wash. 2017).
13. See *infra* Part VII.
14. See National Wildlife Fed'n v. Gorsuch, 693 F.2d 156, 161-64, 13 ELR 20015 (D.C. Cir. 1982), *rev'g*, 530 F. Supp. 1291, 12 ELR 20268 (D.D.C. 1982).

One way to ameliorate these effects would be to require dam operators to obtain CWA point source permits for these polluting discharges. The permits could require operating practices aimed at achieving applicable dissolved oxygen, nitrogen supersaturation, and temperature water quality standards. Violating permit terms would subject dam operators to CWA sanctions, no doubt prompting remedial action. But EPA's reticence to regulate dam operators and a series of court decisions sanctioning that reticence have effectively removed core dam operations from the CWA's point source permit requirements.

More than 40 years ago, the National Wildlife Federation petitioned EPA to subject dams to the Act's permit program, but the Agency declined, mostly on grounds of administrative convenience.¹⁵ EPA did not want to assume the chore of regulating federal dam operators like the U.S. Army Corps of Engineers (the Corps) and the Bureau of Reclamation, let alone oversee state regulation of those operators in states that had developed approved CWA permit programs.

In 1982, following EPA's denial of the environmentalists' petition, the issue landed in court. In *National Wildlife Federation v. Gorsuch*, EPA argued that the dams do not "discharge" pollution into waters because they add nothing to the waters, merely providing a medium through which water passes.¹⁶ The government maintained that without an "addition," there was no requirement to obtain a permit. The District Court for the District of Columbia disagreed with EPA, relying on the ambitious purpose of the CWA to eliminate all forms of water pollution, on the fact that the permit program was the U.S. Congress' preferred method for achieving that goal, and on the court's determination that the goal was unattainable without regulating dam-caused pollutants.¹⁷

But on appeal, the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit reversed the lower court, giving little consideration to the goals of the CWA and concluding that the Act was ambiguous, and therefore EPA's reasonable interpretation merited deference.¹⁸ The court made no attempt to explain how the statutory goals could be achieved without regulating dams. The upshot was that the water quality problems caused by core dam operations were left largely to ineffectual state nonpoint source programs and to uncertain water quality-based regulation, which would not materialize for decades.

The National Wildlife Federation brought a second unsuccessful court challenge several years later concerning the alleged discharge of dead fish from a hydroelectric dam into Lake Michigan—an arguable addition of a pollutant under the CWA.¹⁹ The Federation argued that this situ-

ation was different from EPA's general failure to require permits of all dams, because dead fish fell within the statute's definition of "pollutant," which includes "biological materials." The environmentalists contended that the dam was thus in fact discharging pollutants, triggering the permit requirement. The district court agreed, but the U.S. Court of Appeals for the Sixth Circuit reversed, upholding EPA's position that the dam merely changed the "form" of the fish (from live fish to dead fish), adding nothing to the water from the outside world.²⁰ Because the critical trigger of adding a pollutant was absent, the court decided that no federal permit was required.

Thus, through EPA's opposition and judicial acquiescence to that opposition, dams were effectively removed from the Act's permit requirement. That abdication certainly did not mean that the water quality problems caused by dam operations went away. It simply meant that by adopting a rather technical interpretation of the CWA—one the courts could not say was unreasonable, despite the statute's express goal of maintaining and restoring the chemical, physical, and biological integrity of the nation's waters through eliminating all forms of water pollution—EPA had successfully removed its administrative chore of requiring dam operators to apply for and receive permits. Dam-caused water quality problems could thus continue absent effective direct regulation. Consequently, environmentalists shifted their focus to water quality standards and TMDL requirements,²¹ the statute's principal mechanism for attempting to ensure that both point and nonpoint sources of pollution protect water quality.²²

II. Warming Temperatures in the Columbia Basin

Warming aquatic temperatures pose an existential threat to salmonids in their migration and spawning habitats. In the Pacific Northwest, miles of dam impoundments are by far the most significant contributor to these warming temperatures.²³ As a *Seattle Times* reporter declared:

Until the dam-building era began in earnest in the early 1930s, the wild Columbia was a spectacular slasher of a river, . . . with bone crushing rock, swirling with sucking whirlpools, foaming with rapids, chutes and drops, and

15. Prof. Michael Blumm was an attorney for EPA in the late 1970s when the Agency's reaction to the National Wildlife Federation's petition was under consideration.

16. 693 F.2d at 165.

17. *National Wildlife Fed'n v. Gorsuch*, 530 F. Supp. 1291, 1308-13, 12 ELR 20268 (D.D.C. 1982).

18. *National Wildlife Fed'n*, 693 F.2d at 166-75.

19. *National Wildlife Fed'n v. Consumers Power Co.*, 862 F.2d 580, 19 ELR 20235 (6th Cir. 1988), *rev'g*, 657 F. Supp. 989, 17 ELR 20801 (W.D. Mich. 1987).

20. *Id.* at 585-86.

21. A TMDL establishes the maximum amount of a pollutant that may be present in a water body without violating the applicable water quality standard, and also allocates to various sources permissible levels of pollution. CWA §303(d), 33 U.S.C. §1313(d); 40 C.F.R. §130.7 (2019).

22. For a discussion of the early history of the TMDL program, see OLIVER A. HOUCK, *THE CLEAN WATER ACT TMDL PROGRAM: LAW, POLICY, AND IMPLEMENTATION* (1999). For a further discussion of the successes and disappointments of the TMDL program, see Dave Owen, *After the TMDLs*, 17 VT. J. ENV'T L. 845 (2016).

23. REGION 10, U.S. EPA, *TOTAL MAXIMUM DAILY LOAD (TMDL) FOR TEMPERATURE IN THE COLUMBIA AND LOWER SNAKE RIVERS—MAY 18, 2020 TMDL FOR PUBLIC COMMENT 43* (2020) ("EPA's analysis of the cumulative nonpoint source heat loading from dam impoundments shows that the dam impoundments have a greater temperature impact than point sources and tributaries.")

rainbowed with spray as it smashed its way through rock walls in a 1,290-mile run from B.C. to the Pacific.²⁴

Now, that same river basin is home to 281 dams²⁵ creating large, unshaded, and stagnant reservoirs that become heat sinks during the warmer months of salmon runs.²⁶ Before the dams, stretches of the Snake River were known to occasionally run hot,²⁷ but the dams' physical transformation of the river has turned hot days into hot weeks and even months.²⁸

Numerous studies have shown a direct correlation between water temperatures and salmonid health.²⁹ Water exceeding 68 degrees Fahrenheit (°F) is particularly harmful. Where river temperatures exceed that threshold, salmon and trout struggle to migrate upstream, instead remaining downstream where they are more likely to succumb to disease and will spawn far less frequently.³⁰ Higher temperatures can accelerate embryo development, causing fry to emerge prematurely, increasing their vulnerability to predators.³¹ Thermal stress caused by higher stream temperatures increases salmonids' susceptibility to fish pathogens and parasites.³² Warming temperatures associated with climate change compound these problems, reducing snowpack, leading to altered stream flows and increased flooding, disturbing overwintering juvenile fish, and destroying eggs of fall- and winter-spawning fish.³³

In recent years, rising water temperatures in the Columbia Basin have consistently exceeded 68°F during summer salmon and steelhead runs,³⁴ with portions of the rivers often exceeding that limit for weeks at a time.³⁵ For example, in 2015, warm temperatures in the Columbia

and Snake Rivers killed more than 250,000 adult sockeye because the fish were unable to migrate upstream.³⁶ Ninety-six percent of the returning Snake River sockeye, a listed endangered species, died below the Lower Granite Dam on the Snake River.³⁷ Predictions are dire: if current warming trends continue, these extreme conditions may become the new normal.³⁸

In 2016, the Fish Passage Center, an independent federal scientific research group, recognized that "under a climate change scenario, the long-recognized and largely unaddressed problem of high water temperatures in the [Columbia and Snake Rivers] becomes an ever-increasing threat to the survival of salmon in the Columbia River Basin."³⁹ For decades, the problem of high water temperatures had been widely recognized, yet gone largely unaddressed.⁴⁰ But the CWA's requirement that states set TMDLs consistent with water quality standards may offer a path forward in the battle against the deleterious warming effects of dam impoundments.

III. Water Quality Standards and TMDLs

The CWA requires states to set water quality standards to "protect the public health and welfare, enhance the quality of water, and serve the purposes" of the Act. Serving the Act's purposes means that, wherever attainable, those standards must provide water quality for the protection and propagation of fish and wildlife.⁴¹ Setting water quality standards initially involves a two-step process: the states establish "designated uses" for individual water bodies—including, for example, the propagation of fish, recreation, navigation, and public water supply—and then set "criteria" necessary to protect those uses.⁴² Those criteria include allowable levels of pollutants,⁴³ including heat.⁴⁴ The Act's "antidegradation" policy requires states to protect all existing native fish in a particular water body so that water quality results in no mortality or reproductive impairment of resident species.⁴⁵

After states set applicable water quality standards, they must identify the "water quality limited segments" (or

24. *Id.*

25. *Id.*

26. Giulia C.S. Good Stefani, *Temperature Rises on Columbia Basin Dams*, NAT. RESOURCES DEF. COUNCIL, May 26, 2020, <https://www.nrdc.org/experts/giulia-cs-good-stefani/temperature-rises-columbia-basin-dams>.

27. Lynda V. Mapes, *Washington State Aims to Regulate Water Temperature at Federal Dams, Wading Into Controversy*, SEATTLE TIMES, May 28, 2020, <https://www.seattletimes.com/seattle-news/environment/washington-state-aims-to-regulate-water-temperature-at-federal-dams-wading-into-controversy/>.

28. *Id.*

29. See, e.g., Lisa G. Crozier et al., *Snake River Sockeye and Chinook Salmon in a Changing Climate: Implications for Upstream Migration Survival During Recent Extreme and Future Climates*, 15 PLoS ONE e0238886 (2020), <https://doi.org/10.1371/journal.pone.0238886>; see also Steve Toub, *Pacific Salmon in Hot Water*, ENDANGERED SPECIES COALITION, Dec. 4, 2009, <https://www.endangered.org/pacific-salmon-in-hot-water/> (detailing the effects on salmonids of warming temperatures and altered stream flows with references to scientific reports).

30. *Columbia Riverkeeper v. Wheeler*, 944 F.3d 1204, 1206, 50 ELR 20012 (9th Cir. 2019).

31. Toub, *supra* note 29.

32. *Id.*; see also Craig N. Johnston, *Salmon and Water Temperature: Taking Endangered Species Seriously in Establishing Water Quality Standards*, 33 ENV'T L. 151, 153-54 (2003) (detailing the manifold harms to salmonids caused by warming temperatures and proposing a more comprehensive approach to determining temperature standards that will enable recovery of the Northwest's salmonid runs).

33. INDEPENDENT SCIENTIFIC ADVISORY BOARD FOR THE NORTHWEST POWER AND CONSERVATION COUNCIL, *CLIMATE CHANGE IMPACTS ON COLUMBIA RIVER BASIN FISH AND WILDLIFE* (2007).

34. *Columbia Riverkeeper*, 944 F.3d at 1206.

35. Lynda V. Mapes, *Washington State to Regulate Federal Dams on Columbia, Snake to Cool Hot Water, Aid Salmon*, SEATTLE TIMES, Jan. 31, 2019, <https://www.seattletimes.com/seattle-news/environment/washington-state-to-regulate-federal-dams-on-columbia-snake-to-cool-hot-water-check-pollution/>.

36. Letter from Bryan Hurlbutt, Advocates for the West, and Miles Johnson, Columbia Riverkeeper, to Gina McCarthy, Administrator, U.S. EPA, Re: Notice of Intent to Sue EPA Under the Clean Water Act (Aug. 15, 2016).

37. *Id.*

38. See Crozier et al., *supra* note 29; Daniel J. Isaak et al., *Global Warming of Salmon and Trout Rivers in the Northwestern U.S.: Road to Ruin or Path Through Purgatory?*, 147 TRANSACTIONS AM. FISHERIES SOC'Y 566, 581 (2018), available at https://www.fs.fed.us/rm/pubs_journals/2018/rmrs_2018_isaak_d001.pdf (evaluating warming trends and effects on salmonid populations over a 50-year period and predicting future habitat reduction based on those trends).

39. Memorandum from Michele DeHart, Manager, Fish Passage Center, to Ed Bowles and Erick Van Dyke, Review of April 2016 Draft of NOAA Fisheries' 2015 Sockeye Salmon Passage Report (May 4, 2016), <https://www.columbiariverkeeper.org/sites/default/files/2017/08/3.pdf>.

40. *Id.*

41. 40 C.F.R. §130.3 (2019).

42. *Id.* §§131.10, 131.11.

43. *Id.* §131.11.

44. CWA §502, 42 U.S.C. §1362(6).

45. CRAIG N. JOHNSTON & MELISSA POWERS, *PRINCIPLES OF ENVIRONMENTAL LAW* 33 (2016); U.S. EPA, *QUESTIONS AND ANSWERS ON ANTIDEGRADATION* 3 (1983).

“impaired waters”) within their borders—that is, those waters that do not satisfy the applicable water quality standard—and rank them in order of priority. After a state has developed a list of impaired waters and established criteria necessary to protect their designated uses, it must submit for EPA approval a TMDL for each offending pollutant in each impaired water segment. A TMDL first sets the maximum amount of pollutant that each segment may receive without violating the applicable water quality standard, and then allocates to various sources permissible levels of pollution. The TMDL thus functions as a link between water quality standards and the actions necessary to attain those standards.⁴⁶

The CWA requires EPA to approve or disapprove a state’s proposed TMDL within 30 days of submission. If EPA disapproves, it must promulgate its own TMDL within 30 days. That requirement is non-discretionary, and the Act authorizes citizen suits against EPA for a failure to perform any non-discretionary duty imposed under the statute.⁴⁷

Until recently, water quality standards took a back seat to the technology-based controls imposed on point sources, but that is changing. Several citizen suits have prompted EPA to get much more serious about requiring states to implement water quality standards through TMDLs for stream segments and water bodies that fail to meet applicable standards. The setting and enforcement of TMDLs has begun to shift the focus of CWA litigation away from only technology-based point source controls and toward water quality-based controls. Long-neglected nonpoint pollution sources have now become the subject of enforcement and litigation, including in the Columbia Basin.⁴⁸

IV. *Columbia Riverkeeper v. Wheeler*

In the mid-1990s, the threat posed by rising temperatures in the Columbia and Snake Rivers led Oregon and Washington to include both rivers on their lists of impaired waters.⁴⁹ In the states’ priority rankings to EPA, they recognized that violations of temperature standards in numerous river segments threatened diminishing salmon and trout populations.⁵⁰ Because neither state had a functioning TMDL program, the states entered into a memorandum of agreement with EPA under which EPA would develop a temperature TMDL for both rivers.⁵¹ Despite an initial mid-2002 target date for promulgating a final TMDL, by

2017 EPA had made no progress beyond a 2003 draft. Even though Washington and Oregon had developed robust TMDL programs for other water bodies, neither took steps to develop a temperature TMDL for the Columbia and Snake Rivers.

Columbia Riverkeeper responded by leading a group of environmental and fishing organizations in a CWA citizen suit against EPA, charging that Oregon and Washington’s failure to develop a temperature TMDL amounted to a “constructive submission” of no temperature TMDL, thus triggering EPA’s non-discretionary duty to approve or disapprove the submission.⁵² In the Ninth Circuit’s 2019 decision in *Columbia Riverkeeper v. Wheeler*, the court agreed, ruling that where a state has failed to develop a credible plan for producing a TMDL, the Act imposes on EPA a mandatory duty to act. The court decided that the two states had unambiguously indicated that they would not produce a TMDL for the Columbia and Snake Rivers, and consequently EPA had to issue its own TMDL.⁵³

Six months later, in 2020 EPA issued a TMDL⁵⁴ addressing the significant warming effects caused by the dams. The Agency recognized that the dams were the leading contributors to rising temperatures in the Columbia and Snake Rivers, dwarfing the effects of climate change and permitted point source discharges.⁵⁵ EPA concluded that since the 1960s, climate change had increased summer temperatures in the Columbia and Snake Rivers by approximately 0.5°F per decade—totaling an estimated 2.7°F over 60 years⁵⁶—but that the warming effects of the dams could be responsible for as much as 5.8°F on the Snake River, and 8.1°F on the Columbia River.⁵⁷ These potential warming effects far exceeded the water quality standards in both states: for water bodies already exceeding a temperature standard, the states permit only a collective 0.54°F increase in water temperatures from all non-climate change-related anthropogenic sources.⁵⁸ Invoking those state standards, the TMDL allocated to the dam impoundments a mere 0.18°F collective contribution to temperature increases,⁵⁹ and set target allocations for all dams on the Columbia and lower Snake Rivers.⁶⁰

Importantly, however, the TMDL will not by itself create any binding legal requirements under federal law.

52. *Id.* at 1207-08.

53. *Id.* at 1211-12. For a Columbia Riverkeeper attorney’s view on *Columbia Riverkeeper v. Wheeler* and its implications, see Miles Johnson & Kingsley Alec McConnell, *Ninth Circuit Compels EPA to Issue a Temperature Standard TMDL for the Columbia and Lower Snake Rivers After State Inaction*, ABA TRENDS, Sept./Oct. 2020, https://www.americanbar.org/groups/environment_energy_resources/publications/trends/2020-2021/september-october-2020/ninth-circuit-compels-epa/.

54. REGION 10, U.S. EPA, *supra* note 23. EPA may revise the May 2020 TMDL to address public comments before it is implemented, but if no revisions are made, the May 2020 TMDL will be the final, enforceable document. *See id.* introduction.

55. *Id.* at 30.

56. *Id.*

57. *Id.*

58. *Id.* at 40.

59. *Id.* at 51.

60. *Id.* at 46-50.

46. U.S. EPA, *Impaired Waters and TMDLs: Overview of Total Maximum Daily Loads (TMDLs)*, <https://www.epa.gov/tmdl/overview-total-maximum-daily-loads-tmdls> (last updated Sept. 13, 2018).

47. CWA §505(a), 33 U.S.C. §1365(a).

48. For a discussion of the early history and of the TMDL program, see Houck, *supra* note 22. On the methodologies and complexities of calculating TMDLs and their costs and effects, see Matthew DeGioia, *Overboard? The Complexity of Traditional TMDL Calculations Under the Clean Water Act*, 49 ELR 11150 (Dec. 2019). For a further discussion of the successes and disappointments of the TMDL program, see Owen, *supra* note 22.

49. *Columbia Riverkeeper v. Wheeler*, 944 F.3d 1204, 1206, 50 ELR 20012 (9th Cir. 2019).

50. *Id.*

51. *Id.* at 1206-07.

TMDL allocations are most often implemented through CWA permit limits but, as noted above, courts have upheld EPA's refusal to require permits for hydroelectric dam discharges.⁶¹ The significance of EPA's temperature TMDL now hinges on whether §401 of the CWA permits Washington to condition its certification of federally permitted dams on compliance with TMDL allocations.

V. Section 401 Certification and the Columbia Riverkeeper Settlements

Section 401 of the CWA requires applicants for federal licenses or permits—like water pollution discharge permits—to obtain state certifications assuring that their projects will comply with “appropriate requirements of state law,” including state water quality standards.⁶² A permit cannot issue if a state denies certification. Congress enacted this provision to fulfill the Act's policy of preserving the primary responsibilities of states in setting their own water quality standards, which might be stricter than federal standards.⁶³

In 1994, in *PUD No. 1 of Jefferson County v. Washington Department of Ecology*, the U.S. Supreme Court upheld EPA's regulatory interpretation of §401.⁶⁴ Under that interpretation, a state could require, as a condition of certification, that any adverse water quality effects due to a project will comply with state water quality standards. In that case, a public utility required a CWA permit for dredged material that would be released into the Dosewallips River during construction of a new dam.⁶⁵ Washington sought to condition its §401 certification on the dam's future compliance with the state's minimum stream flow requirement (designed to protect salmon runs).⁶⁶

The utility sued, arguing that the state lacked authority to condition its certification on maintenance of stream flow because those future effects were unrelated to the dredge and fill discharges requiring a permit.⁶⁷ The Court, however, sided with EPA, adopting the Agency's broad view of states' §401 certification power: when states impose conditions on §401 certifications they may consider any effects a project might have on water quality—even if unrelated to the activity requiring a permit.⁶⁸

Because under *Gorsuch* core dam operations do not require permits,⁶⁹ they cannot trigger the §401 certification requirement. Between 2013 and 2019, however,

Columbia Riverkeeper filed a string of lawsuits⁷⁰ against the Corps and the Bureau of Reclamation, winning settlements under which the agencies agreed to apply for CWA permits for nine federal dams in the Columbia Basin.⁷¹ Instead of targeting the dam operations as they affect water flows, which *Gorsuch* had exempted from the Act's permit requirements, Riverkeeper focused on hundreds of gallons of oils and lubricants leaked and spilled by the dams⁷²: those discharges, Riverkeeper argued, plainly violated the Act's prohibition against permitless discharges.

The resulting settlement agreements required the dam operators to reduce potential pollution from the dams, including switching to “environmentally acceptable lubricants” and developing “oil accountability plans” to track and disclose the quantity of oils and greases spilled and leaked into the Columbia and Snake Rivers.⁷³ What may prove most consequential, however, were the agencies' commitments to apply for CWA permits addressing those discharges,⁷⁴ because those permits will trigger §401 certifications. These §401 certifications could mean the long-standing efforts to have dam operations comply with state water quality temperature standards may finally bear fruit.

A key difference between Oregon's and Washington's permitting programs has enabled Washington to leverage §401 to its advantage. Shortly after Congress enacted the CWA, EPA approved Oregon's regulation of federal facilities under the CWA's permitting program.⁷⁵ In contrast, Washington's authority to issue CWA permits does not extend to permits required for federal facilities: that authority has been retained by EPA.⁷⁶ Because EPA, a federal agency, issues permits for federal dam operations in Washington, §401 of the Act is triggered. That means that Washington must certify that the dams will satisfy state requirements before permits may issue—requirements potentially including temperature limits under state water quality standards.

61. See discussion *supra* Part I. The Act leaves to the states implementation of TMDLs concerning nonpoint sources of pollution, and gives EPA neither direct enforcement authority over nonpoint entities nor any meaningful leverage over states that fail to properly implement TMDLs. See JOHNSTON & POWERS, *supra* note 45, at 39.

62. CWA §401, 33 U.S.C. §1341.

63. *S.D. Warren Co. v. Maine Bd. of Env't Prot.*, 547 U.S. 370, 386, 36 ELR 20089 (2006).

64. 511 U.S. 700, 24 ELR 20945 (1994).

65. *Id.* at 711.

66. *Id.* at 703, 711.

67. *Id.*

68. *Id.* at 724.

69. See *supra* text accompanying notes 16-18.

70. The three initial lawsuits involving eight federal dams operated by the Corps (Bonneville, John Day, the Dalles, and McNary Dams on the Columbia River; Ice Harbor, Lower Monumental, Little Goose, and Lower Granite Dams on the lower Snake River) were consolidated in multi-district litigation. In re Columbia Riverkeeper v. U.S. Army Corps of Eng'rs, No. 2:13-md-02494-LRS (E.D. Wash., cases consolidated Dec. 13, 2013); see also Complaint, Columbia Riverkeeper v. U.S. Army Corps of Eng'rs, No. 2:19-cv-00126 (E.D. Wash. filed Apr. 15, 2019) (Chief Joseph Dam).

71. Order of Dismissal Without Prejudice Pursuant to Fed. R. Civ. P. 41, Columbia Riverkeeper v. U.S. Army Corps of Eng'rs, No. 2:13-md-02494-LRS (E.D. Wash. Aug. 14, 2014), ECF 40, at 7-11; see also Joint Motion for Dismissal Without Prejudice, Columbia Riverkeeper v. U.S. Bureau of Reclamation, No. 2:16-CV-00236-RMP (E.D. Wash. Jan. 19, 2017), *incorporated by reference in* Order Granting Joint Motion to Dismiss Without Prejudice, Columbia Riverkeeper v. U.S. Bureau of Reclamation, No. 2:16-CV-236-RMP (E.D. Wash. Jan. 26, 2017).

72. Complaint, Columbia Riverkeeper v. U.S. Army Corps of Eng'rs, No. 2:13-cv-00282 (E.D. Wash. July 31, 2013).

73. Order of Dismissal Without Prejudice Pursuant to Fed. R. Civ. P. 41, *supra* note 71, at 7-11.

74. *Id.*

75. National Pollutant Discharge Elimination System [NPDES] Memorandum of Agreement Between the State of Oregon and United States Environmental Protection Agency Region 10 (Apr. 5, 2010), <https://www.epa.gov/sites/production/files/2013-09/documents/or-moa-npdes.pdf>.

76. Washington Department of Ecology, *401 Water Quality Certifications for Federal Facilities*, <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/401-Water-quality-certification/Certifications-for-NPDES-federal-permits> (last visited Dec. 9, 2020).

VI. Section 401 Certifications and the Columbia Basin Dams

In late 2018, EPA sought §401 certifications for the nine Columbia Basin dams at issue in Riverkeeper's lawsuits.⁷⁷ But in February 2019, within 48 hours of a *Seattle Times* article⁷⁸ announcing that Washington would, for the first time, require the dams' compliance with state water quality standards, EPA withdrew the draft permits.⁷⁹ A year later, however, EPA again sought, and Washington issued,⁸⁰ §401 certifications for eight Washington dams targeted in Riverkeeper's lawsuits. The state conditioned its certifications on EPA incorporating into the permits the forthcoming temperature TMDL that *Columbia Riverkeeper v. Wheeler* required the Agency to produce.⁸¹ Two weeks later, EPA issued a temperature TMDL that, if implemented, would curtail the eight dams' contribution to warming temperatures in the Columbia Basin.⁸²

The federal government has now challenged Washington's §401 certification requirements as unlawful, arguing that the requirements conflict with a federal law requiring the Corps to operate and maintain dams for their authorized purposes.⁸³ This challenge might not survive in the Biden Administration. The outcome of the §401 certification battle may have existential implications for Columbia Basin salmon. Washington's §401 certifications incorporating heat load allocations derived from the temperature TMDL remain the most likely enforceable means of mitigating the dams' deleterious warming effects.⁸⁴ Considering salmon population trajectories and climate change trends, there is a very real possibility that imposing TMDL requirements on the Columbia Basin dams may represent

the last best chance to restore Snake River salmon and trout runs before wild populations die out.⁸⁵

VII. Hatcheries and Water Quality

Over the past several years, environmentalists have targeted federally managed hatcheries for violations of the CWA's permit requirements. In addition to the hatcheries' adverse effects on spawning salmon,⁸⁶ hatchery operations

85. *Id.* A leading scientist from the National Marine Fisheries Service has sounded the alarm that dams and climate change may warm the Snake River to the point that it causes the extinction of sockeye and spring and summer Chinook. Crozier et al., *supra* note 29, at 2.

In June 2020, EPA promulgated a new §401 certification rule narrowing the scope of states' authority to condition certification of federally permitted projects on compliance with state law. Clean Water Act Section 401 Certification Rule, 85 Fed. Reg. 42210 (July 13, 2020) (to be codified at 40 C.F.R. pt. 121) [hereinafter Section 401 Certification Rule], <https://www.govinfo.gov/content/pkg/FR-2020-07-13/pdf/2020-12081.pdf>. Washington's requirement that the federal dams comply with the temperature TMDL would likely have been a permissible condition of certification even under the new rule's narrower grant of authority. The new rule reverses EPA's long-standing interpretation of §401 upheld by the Supreme Court in *PUD No. 1 of Jefferson County*, under which a state could consider a project's effects on state water quality standards—even effects unrelated to the specific discharge requiring a permit, and with no requirement that the effects themselves resulted from point source discharges. See *supra* text accompanying notes 64–68. Under the 2020 rule, however, states may consider only whether *point source discharges* from a project will satisfy state water quality standards. Section 401 Certification Rule, *supra*, at 42234, 42285. As noted above, the D.C. Circuit in *National Wildlife Federation v. Gorsuch* exempted dams from the CWA's permit requirement because, the court concluded, dams do not “add” anything to the waters. See *supra* text accompanying notes 16–18. The *Gorsuch* court did, however, acknowledge that dam spillways are point sources. See *National Wildlife Federation v. Gorsuch*, 693 F.2d 156, 165 n.22, 13 ELR 20015 (D.C. Cir. 1982). For a bare-bones comparison of EPA's 1971 and 2020 rules, see U.S. EPA, *Public Webinar for the Clean Water Act Section 401 Certification Rule*, <https://www.epa.gov/cwa-401/public-webinar-clean-water-act-section-401-certification-rule> (last updated July 13, 2020).

The new EPA regulations might be overturned by operation of the Congressional Review Act, under which Congress may veto regulations promulgated within 60 legislative days. Hannah Northey, *EPA Permit Rule Faces “Vulnerabilities” in Courts, Congress*, E&E NEWS, June 2, 2020, <https://www.eenews.net/edaily/stories/1063295711>. In the meantime, the U.S. House of Representatives pending bill for fiscal year 2021 contains a rider that would bar EPA from using funds under the bill to implement or enforce the updated rule. Hannah Northey & Kevin Bogardus, *Wheeler: House Democrats Blackmailing EPA*, E&E NEWS, July 9, 2020, <https://www.eenews.net/greenwire/stories/1063534175>. Even if political process does not reverse or weaken the rule, it remains vulnerable to legal challenges. Within two months of EPA publishing its final rule, a coalition of 21 attorneys general challenged the rule as illegal under the CWA and inconsistent with the Supreme Court's decision in *PUD No. 1 of Jefferson County*, which had upheld EPA's prior interpretation. Complaint for Declaratory and Injunctive Relief, *California v. Wheeler*, No. 3:20-cv-04869 (N.D. Cal. July 21, 2020), available at https://www.marylandattorneygeneral.gov/news%20documents/072120_Section_401_Complaint.pdf. Unless the regulations are found unlawfully promulgated, they could survive the demise of the Donald Trump Administration until they are lawfully replaced through notice-and-comment rulemaking, which will require a deliberative process, reasoned decisionmaking, and public involvement. See generally TODD GARVEY, CONGRESSIONAL RESEARCH SERVICE, R41546, A BRIEF OVERVIEW OF RULEMAKING AND JUDICIAL REVIEW (2017), <https://fas.org/sgp/crs/misc/R41546.pdf>.

86. See generally HATCHERY SCIENTIFIC REVIEW GROUP, ON THE SCIENCE OF HATCHERIES: AN UPDATED PERSPECTIVE ON THE ROLE OF HATCHERIES IN SALMON AND STEELHEAD MANAGEMENT IN THE PACIFIC NORTHWEST (2014) (concluding that widespread use of traditional hatchery programs has in fact contributed to the overall decline of wild populations); see also Paul Stanton Kibel, *Salmon Lessons for the Delta Smelt: Unjustified Reliance on Hatcheries in the USFWS October 2019 Biological Opinion*, 47 ECOLOGY L. CURRENTS 209 (2020) (discussing the federal government's unwarranted reliance on hatcheries to restore dwindling wild delta smelt populations).

77. Letter from Daniel D. Opalski, Director, Office of Water and Watersheds, U.S. EPA, to Heather Bartlett, Water Quality Program Manager, Washington Department of Ecology, Re: Withdrawal of Request for Clean Water Act Section 401 Certifications of NPDES Draft Permits (Feb. 1, 2019), <https://www.documentcloud.org/documents/5729012-2019-02-01-Bartlett-401-Cert-Withdrawal.html>; WASHINGTON DEPARTMENT OF ECOLOGY, PUBLIC NOTICE, ANNOUNCING DRAFT PERMITS FOR NINE FEDERAL DAMS ON THE COLUMBIA AND SNAKE RIVERS: REQUEST FOR STATE CERTIFICATION FOR REVIEW AND COMMENT (2019), <https://fortress.wa.gov/ecy/ezshare/sea/401/401DamsPN.pdf>.

78. Mapes, *supra* note 35.

79. Lynda V. Mapes, *EPA Ices Washington State's Effort to Regulate Hot Water in Columbia, Snake Rivers*, SEATTLE TIMES, Feb. 7, 2019, <https://www.seattletimes.com/seattle-news/environment/epa-ices-washington-states-effort-to-regulate-hot-water-in-columbia-snake-rivers/>.

80. See, e.g., Letter from Vincent McGowan, P.E., Water Quality Program Manager, Washington Department of Ecology, to Susan Poulson, Manager, NPDES Permits Unit, EPA Region 10, Re: Clean Water Act Section 401 Final Certification, EPA National Pollutant Discharge Elimination System Permit No. WA0026786, USACE—Little Goose Lock and Dam (May 7, 2020).

81. See, e.g., Water Quality Certification to EPA, Order No. 18150, Little Goose Lock and Dam (NPDES Permit No. WA0026786) (Wash. Dep't of Ecology May 7, 2020). All related letters and certifications are available at Washington Department of Ecology, *Section 401 Water Quality & CZM Federal Consistency Decisions*, <https://apps.ecology.wa.gov/aquatics/decisions> (last visited Dec. 9, 2020).

82. REGION 10, U.S. EPA, *supra* note 23.

83. Notice of Appeal, U.S. Army Corps of Eng'rs v. Washington Dep't of Ecology, No. P20-043c (Wash. Pollution Control Hearings Bd. June 8, 2020).

84. Telephone Interview with Miles Johnson, Senior Attorney, Columbia Riverkeeper (July 17, 2020).

discharge a wide variety of pollutants, including fish waste, antibiotics, and pathogens.⁸⁷ As was the case for the Corps and Bureau of Reclamation dams in the *Columbia River-keeper* lawsuits, a federally managed hatchery in Washington cannot obtain a CWA permit unless the permit satisfies the state's §401 certification requirements, including compliance with state water quality standards.⁸⁸

The hatcheries' CWA violations have gone unaddressed for decades, and violations from unpermitted discharges are likely to be the subject of future litigation.⁸⁹ EPA's budget constraints and lack of prioritization have led federally managed hatcheries in Washington to operate under administratively extended permits, allowing hatchery operations to effectively escape review. Poor monitoring has led to years of improper facility upkeep, and the resulting CWA violations have produced a spate of recent administrative challenges and lawsuits against federal hatchery operations.

A representative case is *Center for Environmental Law & Policy v. U.S. Fish & Wildlife Service*, a 2017 decision of the Eastern District of Washington that involved unpermitted discharges from the Leavenworth National Fish Hatchery in the Cascade Mountains.⁹⁰ The hatchery, managed by FWS, is located along Icicle Creek, a tributary to the Wenatchee River, home to native steelhead and Chinook salmon.⁹¹ Constructed in 1940⁹² to maintain salmon runs lost as a result of the construction of Grand Coulee Dam, Leavenworth annually releases more than a million spring Chinook salmon.⁹³ The suit focused on the hatchery's discharges of fish carcasses, fecal matter, and a toxic cocktail of chemical compounds,⁹⁴ polluting Icicle Creek and the Wenatchee River in violation of several water quality standards.⁹⁵

EPA issued a CWA permit to the hatchery in 1975, which expired four years later.⁹⁶ Somewhat astonishingly, EPA never issued another permit, allegedly due to budgetary constraints.⁹⁷ The court concluded that neither EPA nor FWS had followed procedures necessary to have extended the original permit,⁹⁸ and thus the hatchery had been discharging pollutants in violation of the Act for 36 years.⁹⁹ The court issued an injunction requiring FWS to apply for and obtain a permit within two years, and to limit discharges of several pollutants to comply with the wasteload alloca-

tion of the state's TMDL.¹⁰⁰ EPA issued its final permit in 2017.¹⁰¹ That permit incorporates state-developed TMDL limits for the Wenatchee River watershed—including temperature limits on discharges.¹⁰²

VIII. Protecting Salmon Through Water Quality Standards

In September 2020, Northwest Environmental Advocates (NWEA) sued EPA for the Agency's failure to ensure that Washington State's water quality standards were adequate to protect fish and other aquatic life from toxic pollutants.¹⁰³ EPA's regulations require states to set "criteria"—including numeric limits on toxic pollutants—adequate to protect aquatic life.¹⁰⁴ For more than 20 years, Washington had failed to adopt or revise criteria for some two dozen toxics identified in NWEA's lawsuit, despite the fact that the state's existing criteria were significantly less protective than those recommended by EPA.¹⁰⁵ NWEA's suit seeks to force EPA to promulgate federal regulations for new and revised aquatic life criteria in Washington that will satisfy the CWA's requirements.¹⁰⁶ A trial date has been scheduled for November 2021.¹⁰⁷

IX. Conclusion: The CWA and Salmon Restoration

Salmon require cool temperatures to migrate and reproduce. The CWA requires states to develop and implement water quality standards sufficient to produce fishable waters. Nearly a half-century after its 1972 enactment, the modern federal statute's goal of fishable waters has yet to be achieved in the case of salmon streams.

It is unclear that salmon recovery can happen in the absence of cooler temperatures. The recent cases that attempt to enforce the long-delayed temperature TMDL for the Columbia and Snake Rivers through §401 certifications offer some hope that the CWA can become a vehicle for cooling the river temperatures, especially in the Columbia Basin, and promoting salmon recovery. But that will require overcoming determined opposition to changes to the status quo.

87. News Release, Center for Environmental Law and Policy, Icicle Creek: A Win for Waters of Washington (May 18, 2018), <https://celp.org/icicle-creek/>; see also Center for Env't L. & Pol'y v. U.S. Fish & Wildlife Serv., 228 F. Supp. 3d 1152, 1155 n.1 (E.D. Wash. 2017) ("These discharges may include uneaten fish food, fecal matter, fish carcasses, spawning waste, disease control chemicals, pathogens, nitrogen, antibiotics, and chemicals.")

88. *Center for Env't L. & Pol'y*, 228 F. Supp. 3d at 1155.

89. Interview with Laurie Jordan, Policy Analyst, Columbia River Inter-Tribal Fish Commission (Nov. 22, 2019).

90. 228 F. Supp. 3d 1152, 2017 WL 1731706 (E.D. Wash. 2017) (permanent injunction); *appeal dismissed*, No. 17-35548, 2017 WL 6759127 (9th Cir. Nov. 15, 2017).

91. *Center for Env't L. & Pol'y*, 228 F. Supp. 3d at 1155.

92. FWS, *Leavenworth Fisheries Complex*, <https://www.fws.gov/leavenworth-fisheriescomplex/> (last updated Nov. 13, 2020).

93. *Center for Env't L. & Pol'y*, 228 F. Supp. 3d at 1155.

94. *Id.* at 1155 n.1.

95. *Id.* at 1155.

96. *Id.* at 1154.

97. *Id.* at 1154, 1156.

98. *Id.* at 1158-59.

99. *Id.* at 1160.

100. Center for Env't L. & Pol'y v. U.S. Fish & Wildlife Serv., No. 2:15-CV-0264-SMJ, 2017 WL 1731706 (E.D. Wash. May 3, 2017).

101. REGION 10, U.S. EPA, AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (2017), <https://www.epa.gov/sites/production/files/2017-12/documents/r10-npdes-leavenworth-wa0001902-final-permit-2017.pdf>.

102. REGION 10, U.S. EPA, NPDES FACT SHEET—USFWS LEAVENWORTH NATIONAL FISH HATCHERY (2016), <https://www.epa.gov/sites/production/files/2016-12/documents/r10-npdes-fact-sheet-leavenworth-wa0001902-2016.pdf>.

103. Complaint, Northwest Env't Advocs. v. Environmental Prot. Agency, No. 20-cv-01362 (W.D. Wash. Sept. 16, 2020), ECF No. 1, https://www.epa.gov/sites/production/files/2020-10/documents/1_compl_nwea_v_epa_alc_petition.pdf. Not all of Washington's existing criteria are less protective than—or significantly less protective than—EPA's §304(a) criteria, but there are quite a few, including copper. See *id.* at 21-22, tbl.B.

104. 40 C.F.R. §§131.10-11.

105. Complaint, *supra* note 103, at 1-2.

106. *Id.*

107. Order Setting Trial Date & Related Dates, Northwest Env't Advocs. v. Environmental Prot. Agency, No. 20-cv-01362 (W.D. Wash. Dec. 17, 2020), ECF No. 13.